

**TOSHIBA**

FILE NO. 330-200209

**SERVICE MANUAL**

**DLP DATA PROJECTOR**  
***TDP-MT8***

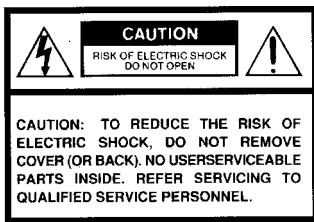


**TDP-MT8**

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# SAFETY PRECAUTIONS



**!** The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

**!** The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

**CAUTION:** Laser beam is emitted when the laser button of the remote control is pressed. Do not look from the front of the remote control. Do not face toward a person or to a mirror.

## FCC Radio Frequency Interference Statement

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiates radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**WARNING:** Changes or modifications made to this equipment, not expressly approved by Toshiba, or parties authorized by Toshiba, could void the user's authority to operate the equipment.

**Notice:** This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

# IMPORTANT PRECAUTIONS

## Save Original Packing Materials

The original shipping carton and packing materials will come in handy if you ever have to ship your LCD projector. For maximum protection, repack the set as it was originally packed at the factory.

In the spaces provided below, record the Model and Serial No. located at the rear of your LCD projector.

Mode No. \_\_\_\_\_ Serial No. \_\_\_\_\_

Retain this information for future reference.

## Avoid Volatile Liquid

Do not use volatile liquids, such as an insect spray, near the unit. Do not leave rubber or plastic products touching the unit for a long time. They will mar the finish.

## Moisture Condensation

Never operate this unit immediately after moving it from a cold location to a warm location. When the unit is exposed to such a change in temperature, moisture may condense on the crucial internal parts. To prevent the unit from possible damage, do not use the unit for at least 2 hours when there is an extreme or sudden change in temperature.

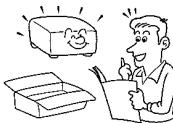
# IMPORTANT SAFETY INSTRUCTIONS

**CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS GIVEN IN THIS OWNER'S MANUAL AND THOSE MARKED ON THE UNIT. RETAIN THIS BOOKLET FOR FUTURE REFERENCE.**

This set has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. This unit is fully transistorized and does not contain any parts that can be repaired by the user. **DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.**

## 1. Read Owner's Manual

After unpacking this product, read the owner's manual carefully, and follow all the operating and other instructions.



## 2. Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

For products intended to operate from battery power, or other sources, refer to the operating instructions.



## 3. Source of Light

Do not look into the lens while the lamp is on. The strong light from the lamp may cause damage to your eyes or sight.



## 4. Ventilation

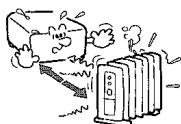
Openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.



# IMPORTANT SAFETY INSTRUCTIONS

## 5. Heat

The product should be situated away from heat sources such as radiators heat registers, stoves, or other products (including amplifiers) that produce heat.



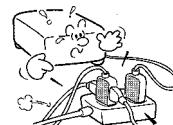
## 7. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.



## 9. Overloading

Do not overload wall outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.



## 6. Water and Moisture

Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool and the like.



## 8. Power-Cord Protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.



## 10. Lightning

For added protection for this product during storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.



# Parts Replacement

This section is designed to let you quickly access information on removal and replacement of FRUs. Go to the part you want to replace. If there are other parts you must remove to access the part you want, you will be referred to those removal instructions.

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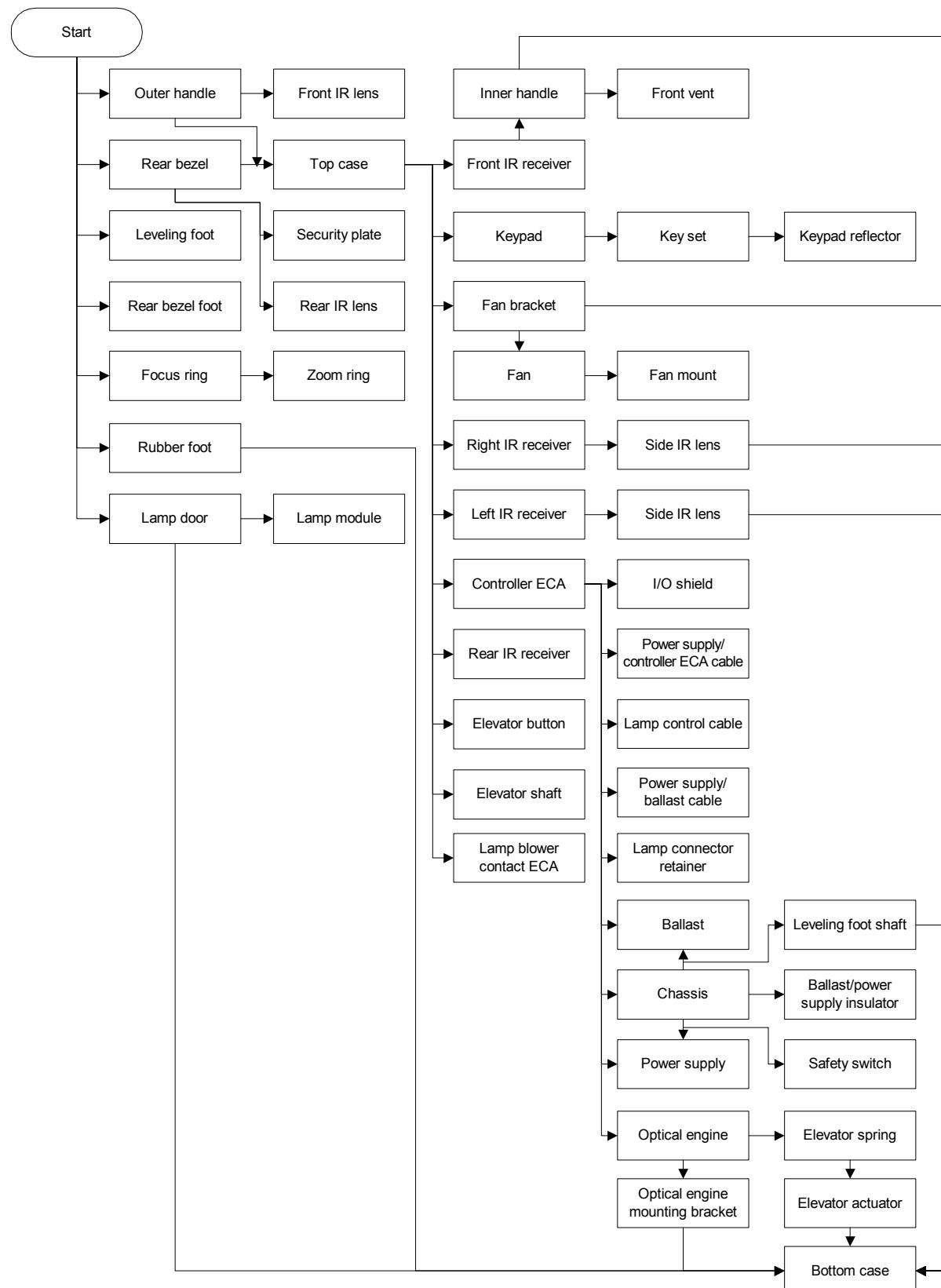
**NOTE** You can also see a flow chart of parts removal. The FRU Hierarchy on page 6 shows a chart of which parts must be removed to access any replaceable part in the projector.

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Generally, the replacement procedure is the reverse of the removal process. Sometimes you will find special instructions under Assembly Notes.

## Removable Parts Hierarchy

The flow chart below shows what parts must be removed to access each FRU in the projector. The parts on the first level (the lamp door, for example) are accessible without removing any other parts. The more levels down a part is, the more parts you need to remove.



## Remove and Replace the Ballast

The **ballast** is located in the chassis above and forward of the power supply. The ballast steps up power from the power supply to ignite the lamp module.

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**DANGER** Do not attempt to measure the output voltage from the ballast when the lamp strikes. High voltage produced by the ballast to strike the lamp can ruin test instruments as well as cause personal injury.

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**1.** Remove the following items:

Lamp module (see page 37)

Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

Controller ECA (see page 16)

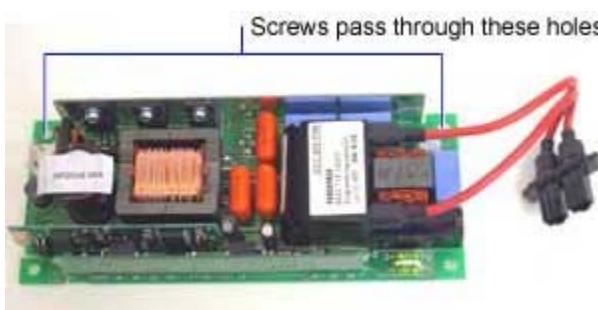
**2.** Remove the two M3x6 Torx screws from the lamp connector retainer on the front of the chassis.



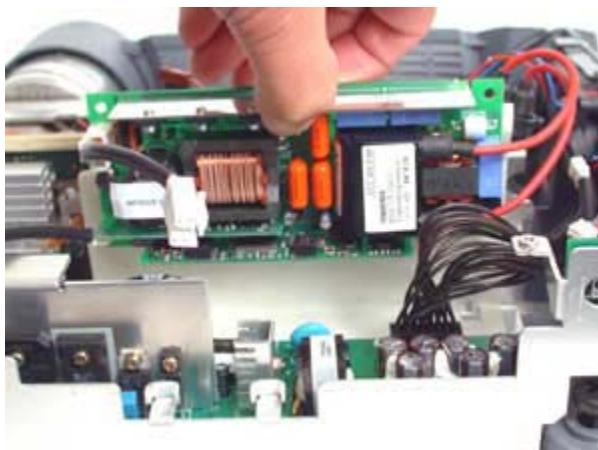
3. Unplug the ballast/power supply cable from X1 and the lamp control cable from the connector on the ballast. Squeeze the latch on the side of the power supply/ballast cable connector to release it. (The illustrations below show the ballast already removed so you can see it more clearly.)



4. Remove the two M3x8 screws that fasten the ballast to the chassis.

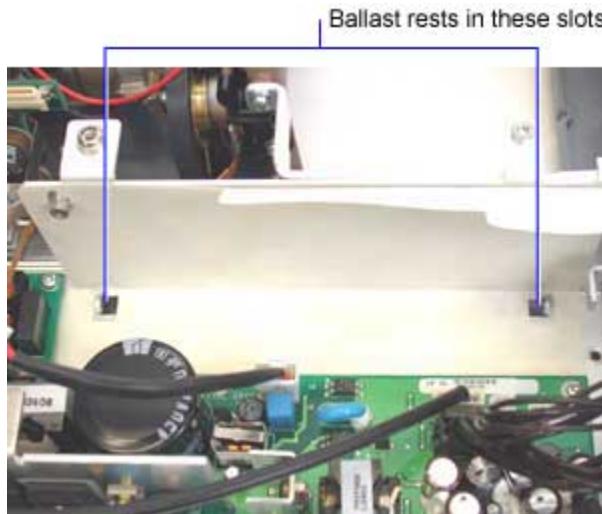


5. Lift the ballast away from the chassis.



## Assembly Notes

- ◆ Plug in the power supply/ballast cable and the lamp control cables to their connectors on the ballast.
- ◆ Position the bottom of the ballast in the slots in the chassis. Make sure the two screw holes in the ballast align with the threaded standoffs on the wall of the chassis.



- ◆ Install and torque the two M3x8 Torx screws to 6 in/lbs (.68 Nm).

## Remove and Replace the Ballast/Power Supply Insulator

The **ballast/power supply insulator** provides electrical insulation between the power supply, ballast and chassis.

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**WARNING** The insulator must always be installed between the ballast and power supply and the chassis.

Inspect the gasket closely whenever the ballast or power supply is removed. Never use a gasket with holes or tears.

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The **lamp connector retainer** fastens to the chassis near the thermal switch. It holds the lamp connector securely in the lamphouse.

1. Remove the following items:

Ballast (see page 7)

Power supply (see page 43)

2. Tilt the ballast/power supply insulator away from the front wall of the chassis and the ballast mounting standoffs. Then lift the insulator out of the projector.



### Assembly Notes

- ◆ Position the ballast/power supply insulator in the chassis so that the holes in the bottom of the insulator align with the ballast mounting slots and power supply standoffs that protrude from the floor of the chassis. Then press the insulator over the ballast mounting standoffs on the front of the chassis.

## Remove and Replace the Bottom Case

The **bottom case** encloses the bottom half of the projector. When you replace a bottom case, you also need to adhere a new **certification label**.

**1.** Remove the following items:

Lamp door and lamp module (see page 37)

Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

Inner handle and front vent (see page 33)

Controller ECA (see page 16)

Fan assembly (see page 26)

Chassis (see page 13)

Optical engine (see page 22)

Optical engine mounting bracket (see page 24)

Side IR receivers and lenses (see page 47)

Rubber feet (see page 54)

Elevator (see page 19)

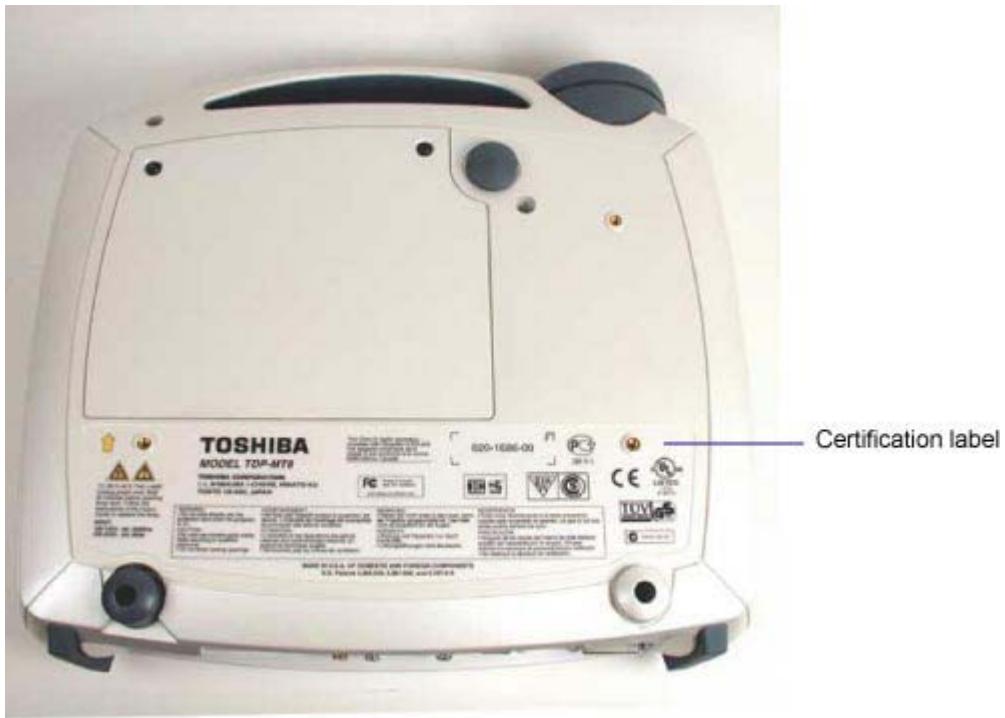
Leveling foot (see page 39)

**2.** Remove the serial number label from the certification label. To do this, carefully use a heat gun or hair drier to soften the adhesive on the back of the label, then peel it off. Do not lose the serial number. It is not a replaceable part.



## Assembly Notes

- ◆ Adhere a new certification label to the bottom case. Then adhere the original serial number label in the serial number box.



- ◆ Adhere one of the old rubber feet to the foot at the rear of the bottom case. Adhere the other rubber foot to the center of the leveling foot knob. Use new rubber feet if the adhesive was damaged when you removed the old ones from the old bottom case.
- ◆ Replace the parts in the bottom case reversing the order you used to remove them.

## Remove and Replace the Chassis

The metal **chassis** provides the necessary rigidity for the projector's internal components, yet it adds very little to the overall weight. The **power supply**, **ballast**, **rear IR receiver**, **lamp connector retainer** and **safety switch** fasten to the chassis. The **ballast/power supply insulator** provides electrical insulation between the chassis and components inside it.

1. Remove the following items:

Lamp module (see page 37)

Outer handle (see page 41)

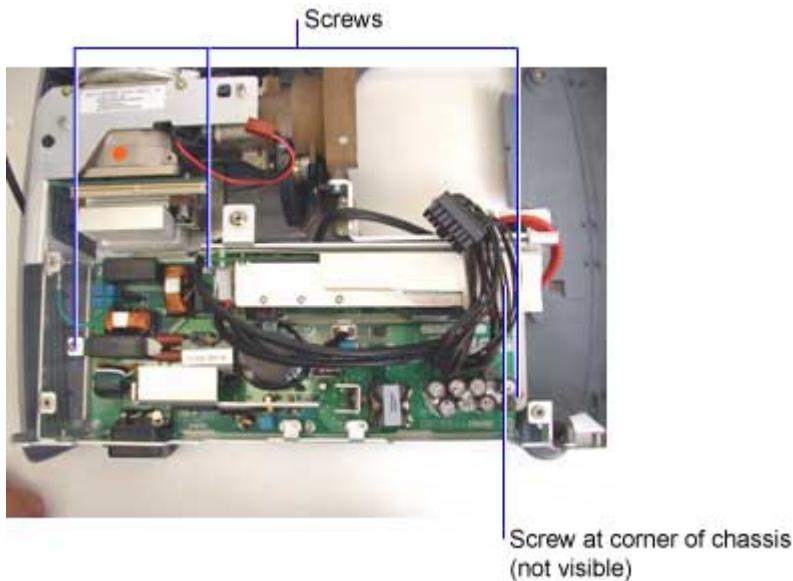
Rear bezel (see page 51)

Top case (see page 57)

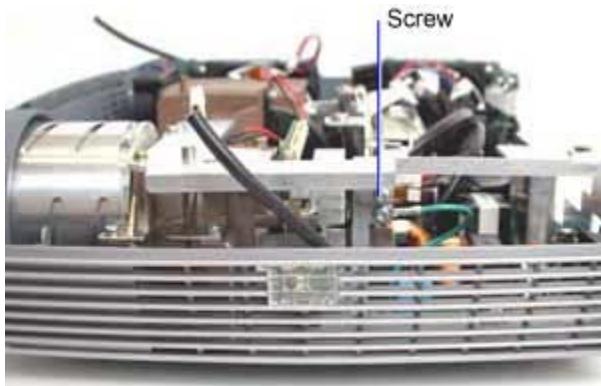
Controller ECA (see page 16)

Rear IR receiver (see page 47)

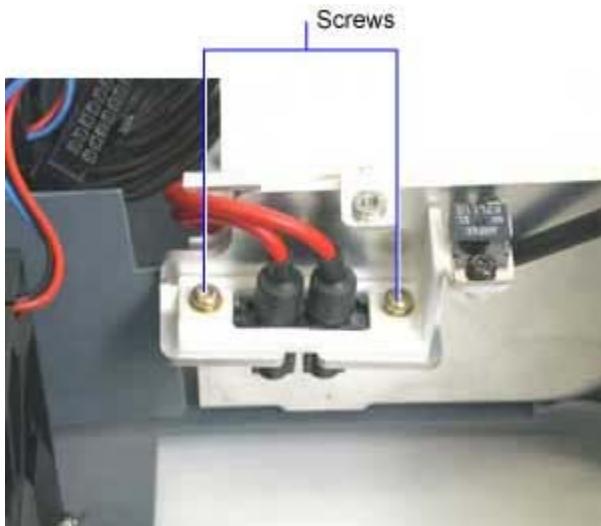
2. Remove the four M3x8 Torx screws that fasten the chassis to the bottom case.



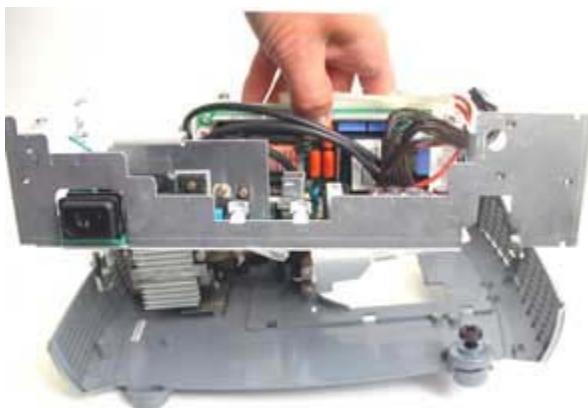
3. Remove the M3x8 Torx screw from the side of the chassis above the power supply ground terminal.



4. Remove the two M3x6 Torx screws from the lamp connector retainer on the front of the chassis. The lamp connector and lamp connector retainer remove with the chassis.



5. Lift the chassis from the bottom case.



6. Place the chassis on the bench and remove the following parts:

Safety switch (see page 55)

Power supply (see page 43)

Ballast (see page 7)

Ballast/power supply gasket (see page 10)

You are left with the bare chassis.

### ***Assembly Notes***

- ◆ Install the parts in the reverse order.
- ◆ Torque the two M3x6 Torx screws on the lamp connector retainer to 6 in/lbs (.68 Nm).
- ◆ Torque the five M3x8 Torx screws that secure the chassis in the projector to 6 in/lbs (.68 Nm).

## Remove and Replace the Controller ECA

The **controller ECA** mounts to the top of the metal chassis above the optical engine and power supply. It fastens to the chassis with seven screws and connects to the DMD ECA through a direct connector on the bottom of the controller.

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**WARNING** Be sure to take proper ESD precautions while working near the controller ECA. It can be easily damaged by static electricity. ECAs damaged by static electricity require replacement.

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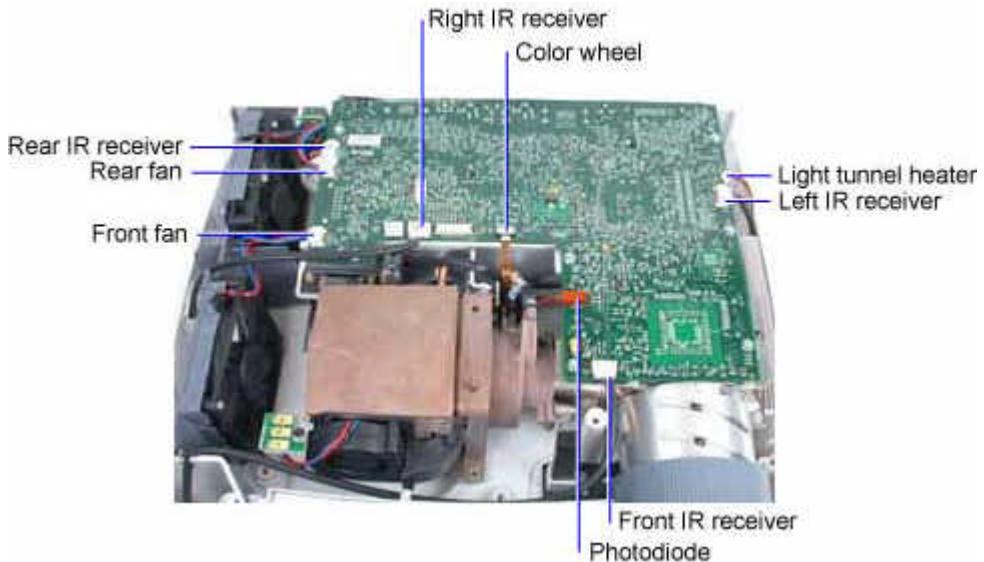
**1.** Remove the following items:

Outer handle (see page 41)

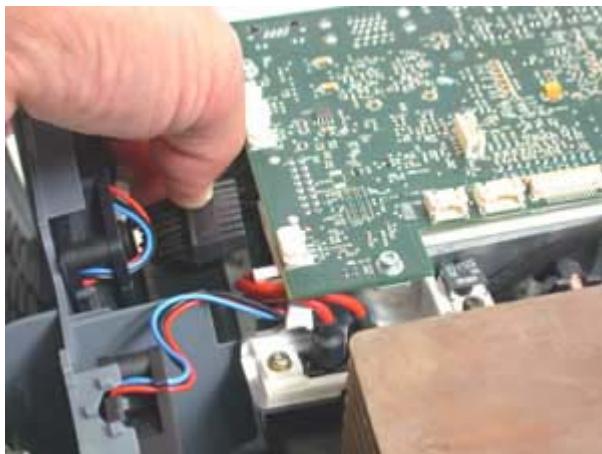
Rear bezel (see page 51)

Top case (see page 57)

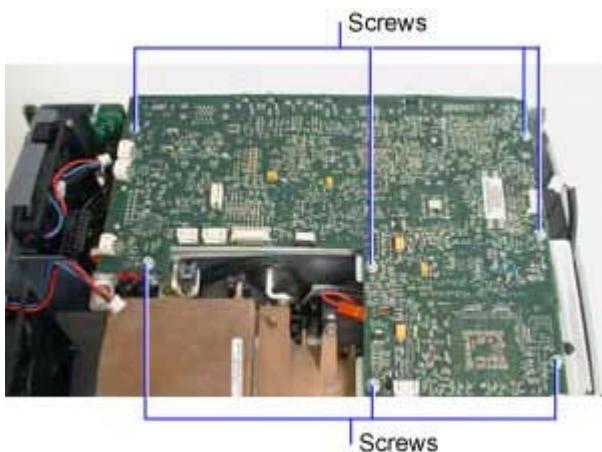
**2.** Unplug the two fan cables, the front, rear and two side IR receiver cables, the photodiode cable, the light tunnel heater cable, and the color wheel ribbon cable from the controller ECA.



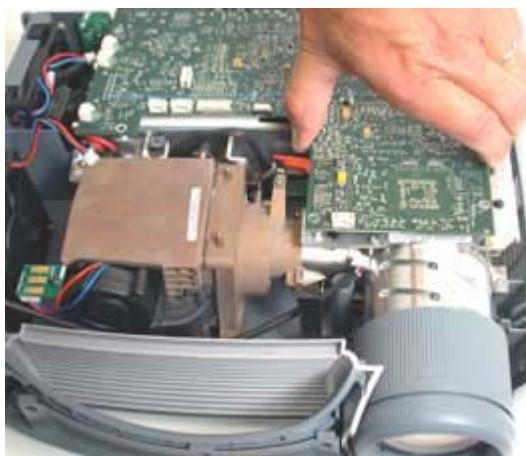
3. Unplug the controller/power supply cable from the controller ECA. Squeeze the latch on the bottom of the connector to release it.



4. Remove the seven M3x8 Torx screws that fasten the controller ECA to the chassis.



5. Lift the controller ECA over the optical engine to release the DMD/controller connector.



6. Lift the controller out of the projector.

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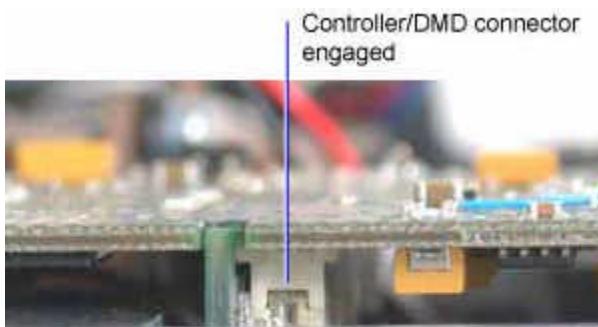
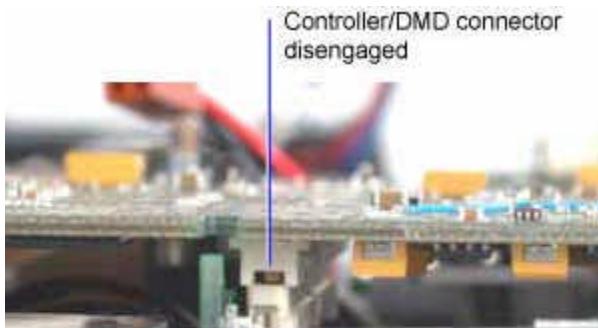
**WARNING** Make sure to store the controller ECA in a static-safe container.

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7. If you are replacing the controller with a new one, remove the I/O EMI shield (see page 35).

### Assembly Notes

- ♦ Align the controller/DMD connector, then press the controller down firmly. You will feel the connector halves engage.



- ♦ Use a T-10 driver to install the seven M3x8 Torx screws. Torque the screws to 6 in-lbs (.68 Nm).
- ♦ Plug in the controller/power supply cable.
- ♦ Plug in the two fan cables, the front, rear and two side IR receiver cables, the photodiode cable, the light tunnel heater cable, and the color wheel ribbon cable. Go to page 88 if you need help with the color wheel ribbon cable.

## Remove and Replace the Elevator

The elevator is comprised of the **elevator spring**, **elevator actuator** and **elevator shaft**. The elevator shaft includes a molded foot. The **elevator button** in the top case moves the elevator actuator to allow the shaft to extend or retract and adjust the level of the projected image. The elevator housing is molded into the bottom case. Except for the housing, each part can be replaced separately.

### Remove the Elevator Shaft

1. Remove the following items:

Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

2. Use a small screwdriver to move the elevator actuator toward the right side of the projector. This disengages the actuator and allows the elevator shaft to travel freely up and down. Keep the actuator in this position as you complete the next step.

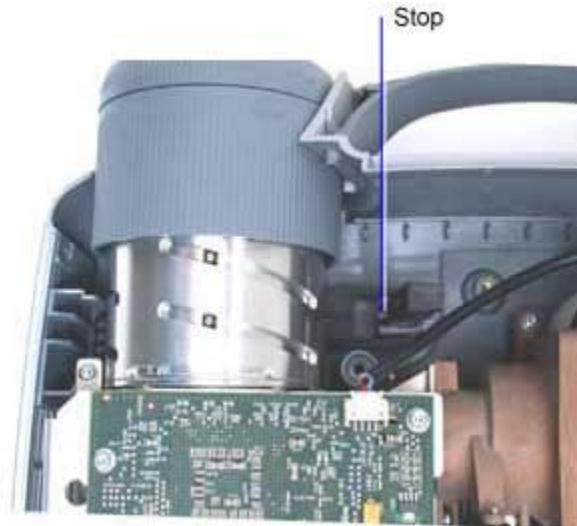


3. Fully extend the elevator shaft. Then use the small screwdriver to gently pry the stop on the elevator housing away from the elevator shaft. This allows the elevator shaft to pass through the housing and out of the bottom case.

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**CAUTION** Take care when prying the stop. It can easily break. If a stop breaks, the bottom case must be replaced.

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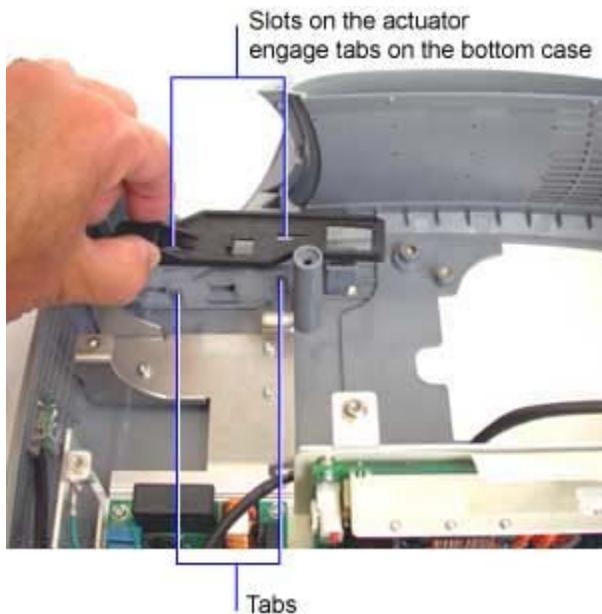
4. Pull the elevator shaft out from the bottom side of the projector.

#### **Remove the Elevator Spring and Actuator**

1. Remove the elevator shaft, then remove the:  
Optical engine (see page 22)
2. Use a small screwdriver or angled pick to remove the elevator spring from the slot in the elevator actuator.



3. Move the actuator as far to the right as possible. Then lift the actuator off of its guide tabs in the bottom case.



#### **Assembly Notes**

- ◆ Install the elevator actuator first and move it as far to the right as possible. Then install the elevator shaft.
- ◆ Move the actuator to the left as far as possible. Then press the elevator spring into the slot in the actuator. A tab on the actuator holds the spring in its recess.



## Remove and Replace the Optical Engine

The **optical engine** fastens to the bottom case. The body of the engine fastens to the optical engine mounting bracket, while the light tunnel fastens directly to the bottom case near the lamphouse. The engine comprises all parts in the light path including the:

- ◆ DMD – produces the image by reflecting wanted pixels through the projection lens and discarding unwanted pixels by reflecting them to a “dump light” area inside the engine.
- ◆ DMD driver board – formats the image signal for interpretation by the DMD
- ◆ Color wheel – provides colors for the DMD to use in image production
- ◆ Light tunnel – conducts focused light from the lamp module to the DMD
- ◆ Photodiode – reads color wheel rotation to maintain proper synchronization with the DMD and allow accurate color reproduction
- ◆ Projection lens – focuses or changes the size of the image produced by the DMD

**1.** Remove the following items:

Lamp door and lamp module

Outer handle

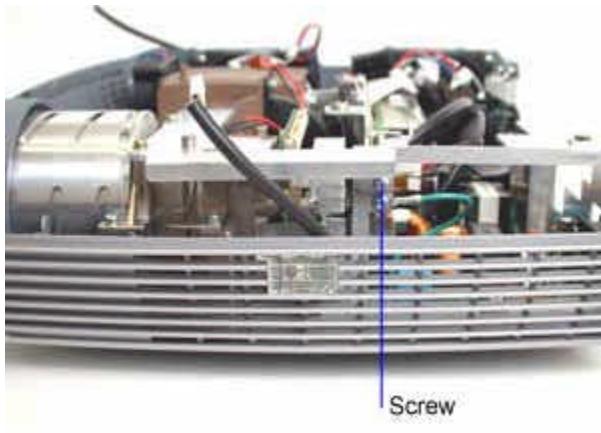
Rear bezel

Top case

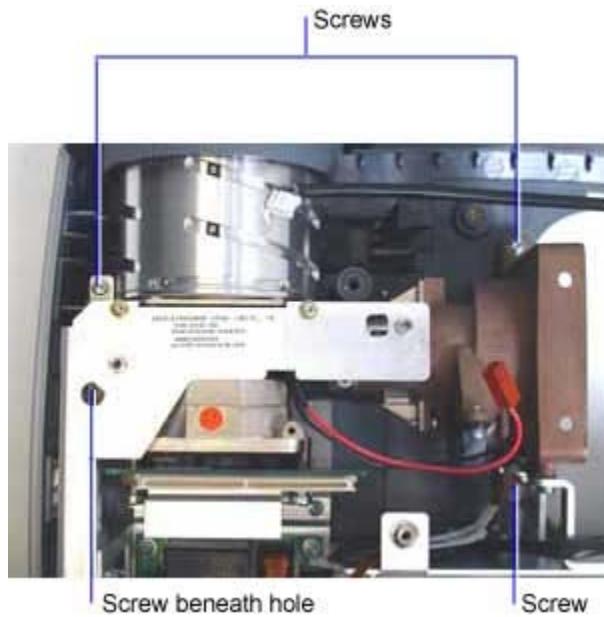
Inner handle and front vent

Controller ECA

**2.** Remove the M3x8 Torx screw that fastens the optical engine to the chassis.



3. Remove the four M3x8 Torx screws that fasten the optical engine to the mounting bracket.



4. Grasp the engine around the projection lens barrel. Then lift the engine up out of the case.
5. Place the engine on a static-free surface or in an ESD-protected container.

#### **Assembly Note**

- ◆ Make sure the engine aligns with the holes in the mounting bracket. Torque all five of the M3x8 Torx screws to 6 in/lbs (.68 Nm).

## Remove and Replace the Optical Engine Mounting Bracket

The **optical engine mounting bracket** holds the body of the optical engine in the bottom case.

**1.** Remove the following items:

Lamp door and lamp module (see page 37)

Outer handle (see page 41)

Rear bezel (see page 51)

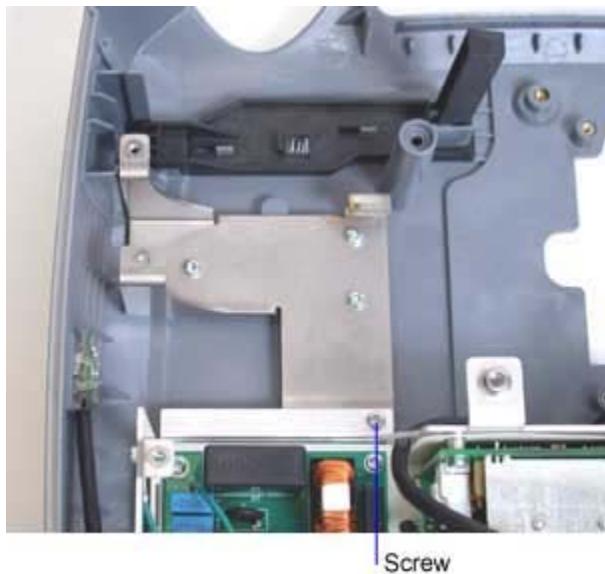
Top case (see page 57)

Inner handle and front vent (see page 33)

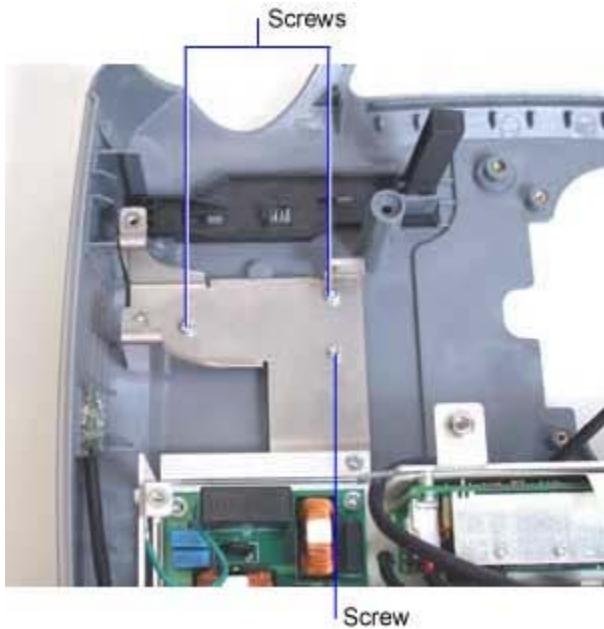
Controller ECA (see page 16)

Optical engine (see page 22)

**2.** Remove the M3x8 Torx screw that fastens the lip at the front of the chassis to the bottom case. It is not necessary to remove any of the other chassis screws.



3. Remove the three M3x8 Torx screws that fasten the mounting bracket to the bottom case.



4. Lift the bracket at the front and remove it from the bottom case.

#### **Assembly Notes**

- ◆ Place the rear of the mounting bracket beneath the lip at the front of the chassis.
- ◆ Make sure the bracket aligns with the holes in the bottom case. Torque the three M3x8 Torx screws to 6 in/lbs (.68 Nm).
- ◆ Torque the M3x8 Torx screw at the front of the chassis to 6 in/lbs (.68 Nm).

## Remove and Replace the Fan Assembly

The fan assembly is comprised of two **fans**, the **fan bracket**, and four **fan mounts**. The two fans provide all the cooling air necessary for the projector.

1. Remove the following items:

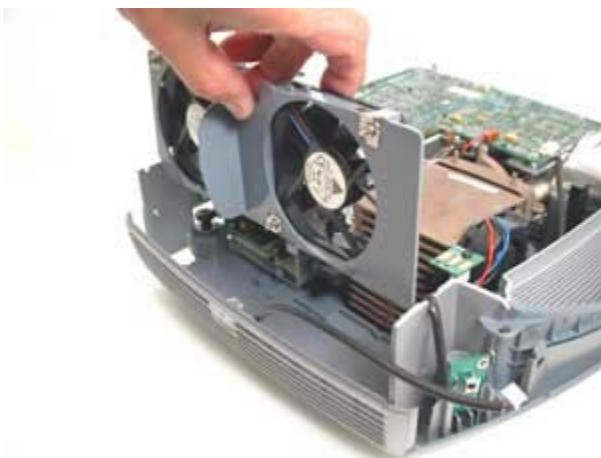
Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

2. Unplug the left IR receiver cable from connector J508 and the fan cables from connectors J506 and J517 on the controller ECA.

3. Lift the fan bracket from the bottom case.



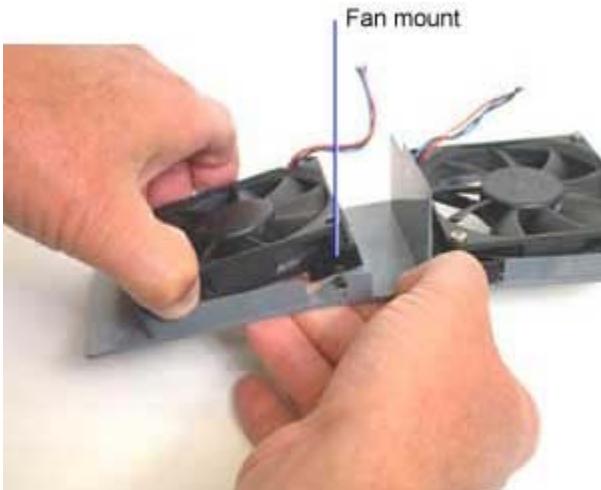
4. Separate either fan from the fan bracket by removing the two M3x25 Phillips screws from the diagonal corners of the fan frame.

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**NOTE** You don't need to separate either fan from the fan bracket if you're removing the fan assembly to gain access to other FRUs in the projector.

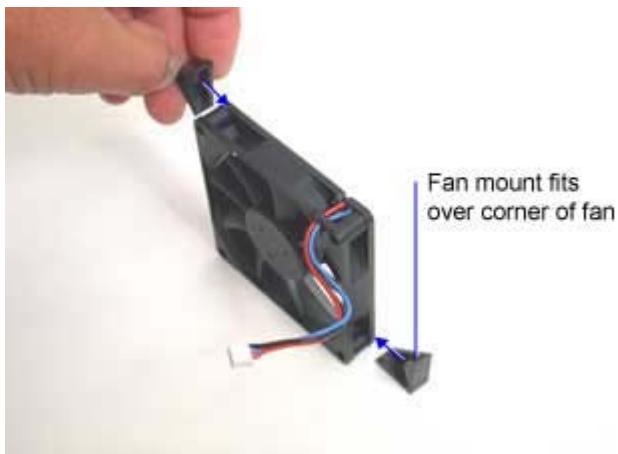
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5. Flex the fan bracket slightly to disengage one of the fan mounts from its retainer.



### Assembly Notes

- ◆ Make sure to install a fan mount on the diagonal corners of a replacement fan.



- ◆ Orient the fan so that the label faces the outward side of the bracket. Make sure cable emerges on the top side of the fan nearest the center of the bracket.



- ◆ Torque the two screws to 6 in/lbs (.68 Nm).
- ◆ Make sure bottom and sides of the fan bracket engage the slots in the bottom case and the front vent. The fan bracket fits into the bottom case only one way.
- ◆ Plug the cable from the fan nearest the lamp into connector J506 on the controller ECA. The cable from the fan nearest the power supply plugs into connector J517 on the controller ECA.
- ◆ Plug the cable from the left IR receiver into connector J508 on the controller ECA.

## Remove and Replace the Focus and Zoom Rings

The **focus ring** fits around the front of the projection lens. The **zoom ring** is behind the focus ring. The **lens cap** snaps onto the focus ring.

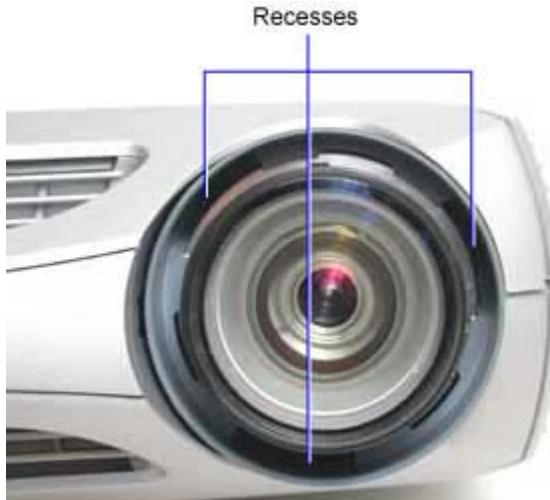
Both the focus ring and the zoom ring snap into place on the lens barrel. They can be replaced without removing any other projector parts.

Three retainer slots inside the zoom ring engage alignment pins on the outside of the lens. Three retainer tabs on the zoom ring engage holes on the lens barrel.

1. Place the projector right side up on a soft work surface.
2. Grasp the focus ring and pull it off of the lens barrel. The retainer slots disengage the pins on the lens.



3. Stand the projector on its rear side and insert a small flat blade screwdriver into one of the zoom ring recesses. Gently pry the retainer tab away from the lens. The tab releases the engagement hole on the lens barrel.



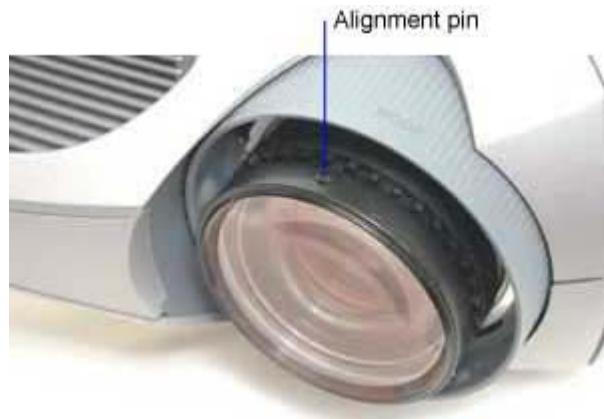
4. Gently pull forward on the zoom ring and repeat step 3 for the other two retainer tabs.

5. When you release all 3 retainer tabs, grasp the zoom ring and pull it off of the lens barrel.



#### **Assembly Notes**

- ◆ Align the three tabs on the zoom ring with the three holes on the lens barrel. Push the ring onto the lens barrel. The lens barrel should fit snugly against the collar inside the zoom ring. Rotate the zoom ring to ensure that the tabs properly engage the holes.
- ◆ Align the three slots on the focus ring with the three alignment pins on the end of the lens barrel. Press the focus ring into place. Rotate the focus ring to ensure that the slots properly engage the alignment pins.



- ◆ Place the lens cap over the focus ring.

## Remove and Replace the Front IR Receiver

The **front IR receiver** is located behind the front IR lens in the inner handle. It consists of the IR ECA and a cable that connects to the controller ECA. The receiver works with others at the rear and both sides of the projector to provide omni-directional reception of commands from the remote control.

1. Remove the following items:

Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

2. Unplug the front IR receiver cable it from J500 on the controller ECA.
3. Slide the front IR receiver upward and out of the alignment slots in the inner handle.



### **Assembly Notes**

- ◆ Route the cable to the left of the front IR receiver ECA and through the saddle at the top of the inner handle.



- ◆ Make sure that the front IR receiver ECA properly engages the alignment slots in the inner handle.
- ◆ Connect the cable to J500 on the controller ECA.

## Remove and Replace the Inner Handle and Front Vent

Located inside of the outer handle and forward of the **front vent**, the **inner handle** provides a hand surface and structural rigidity for the handle.

1. Remove the following items:

Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

Front IR receiver (see page 31)

2. Lift the inner handle from the side of the projector opposite the lens. Swing the handle upward slightly then lift it from the bottom case.



3. Separate the front vent from the inner handle by using a small flat blade screwdriver to disengage the tab on the front vent from the slot on the inner handle.



---

**NOTE** You don't need to separate the front vent from the inner handle if you're removing the inner handle to access other FRUs in the projector.

---

4. Use the small flat blade screwdriver to disengage the tab on the opposite side of the front vent from the slot on the inner handle.



5. Lift the front vent away from the inner handle.



#### ***Assembly Notes***

- ◆ Make sure that the tabs on the inner handle properly engage the slots on the front vent.
- ◆ Position the front vent in the slots in the bottom case. Make sure that it fits properly and that the side of the fan bracket rests in the vertical slot along the back of the vent.

## Remove and Replace the I/O EMI Shield

The **I/O EMI shield** fits over the I/O connectors on the rear of the controller ECA. It fastens to the controller with eight jack screws.

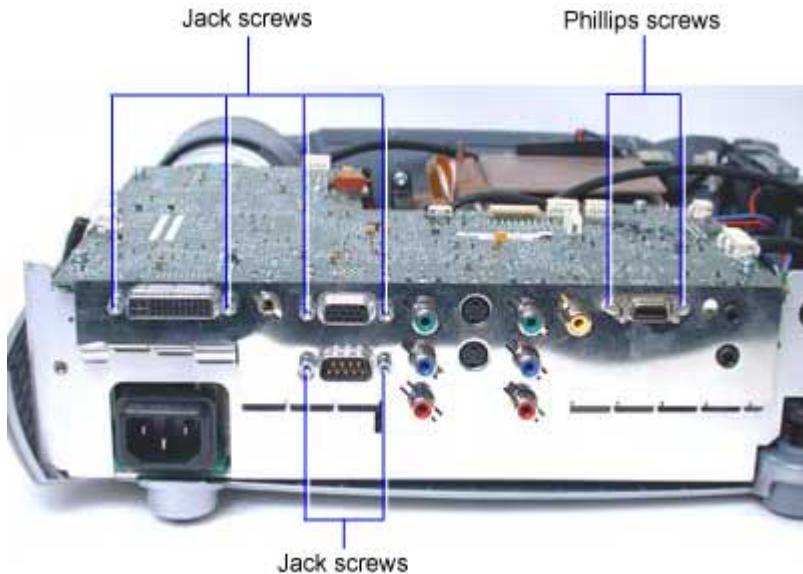
1. Remove the following items:

Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

2. Remove the six 4-40 jack screws that fasten the EMI shield to connectors on the controller ECA.



3. Carefully pull the I/O EMI shield off of the connectors. Take care not to bend the shield or the fingers as you work the shield off.

### Assembly Notes

- ♦ Make sure the fingers on the shield contact the connectors.
- ♦ Torque the jack screws to 2 in-lbs (.226 Nm).

## Remove and Replace the Keypad

The keypad fastens to the inside of the top case. The keypad consists of the **keypad ECA**, the rubber **key set**, and the **keypad reflector**.

1. Remove the following items:

Rear bezel (see page 51)

Outer handle (see page 41)

Top case (see page 57)

2. Place the top case face down on a soft work surface.
3. Remove the eight M3x6 Plastite Torx screws that fasten the keypad to the top case. Then lift the keypad ECA out of the recess in the top case.
4. Gently lift the rubberized key set out of the top case.
5. Use a small flat blade screwdriver to lift one corner of the keypad reflector. Then lift the reflector out of the keypad recess in the top case.

### Assembly Notes

- ◆ The keypad ECA, the key set and the keypad reflector fit only one way in the top case. Make sure that the alignment holes in the keypad ECA fit over the pins in the top case.
- ◆ If the keypad reflector is new, remove the protective paper from the adhesive before installing it. Position the reflector in the recess on the inside of the top case. Press the reflector firmly against the top case.
- ◆ Make sure that the collar on each key fits flush against its hole in the top case.
- ◆ Torque the eight M3x6 Plastite Torx screws to 4 in.-lbs. (.452 Nm).

## Remove and Replace the Lamp Door and Lamp Module

The **lamp door** fits over the lamp cavity in the projector. It includes a tab that closes the interlock switch when the door is shut.

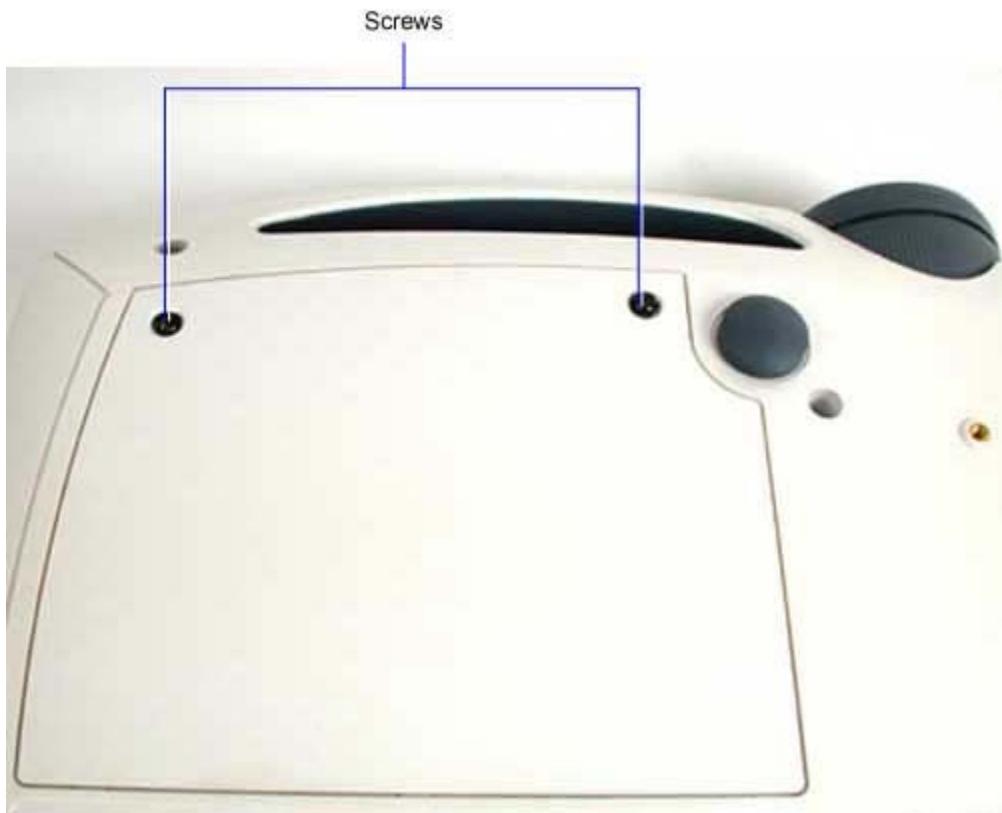
The **lamp module** consists of a metal housing and enclosed reflector assembly and arc tube. A blower on the side of the lamp module provides cooling air to the arc tube and reflector inside of the housing.

---

**CAUTION** The lamp module gets very hot during operation. Allow the lamp to cool for 30 minutes before handling it. The lamp module gets very hot during operation. Allow the lamp to cool for 30 minutes before handling it.

---

1. Place the projector upside down on a soft work surface.
2. To remove the lamp door, loosen the two captive screws that secure it to the projector.



3. To remove the lamp, loosen the captive screw that secures it in the projector, swing the bail on the top of the lamp module up from its storage position, and then pull the module out of the projector.



#### Assembly Notes

- ◆ The lamp must be seated properly to fully ignite. Make sure the two alignment pins on the lamp module engage the holes inside the lamp cavity.
- ◆ Make sure the bail on the lamp module is folded down in storage position. It snaps into position.

---

**NOTE** If the lamp door does not fit flush in the door opening, it is probably because the bail is not completely folded down.

---

- ◆ You must replace the lamp door for the projector to operate.
- ◆ If you installed a new lamp module, follow the directions below to **reset the lamp timer**.

Press the **Menu** button and navigate to the Main Menu>Settings>Service menu. Select Lamp Reset to reset the lamp timer.

After you reset the lamp timer, read the timer value to make sure it was reset. Navigate to the About screen from the Main Menu, then view the Lamp Hour value. It should show 0 hours.

## Remove and Replace the Leveling Foot

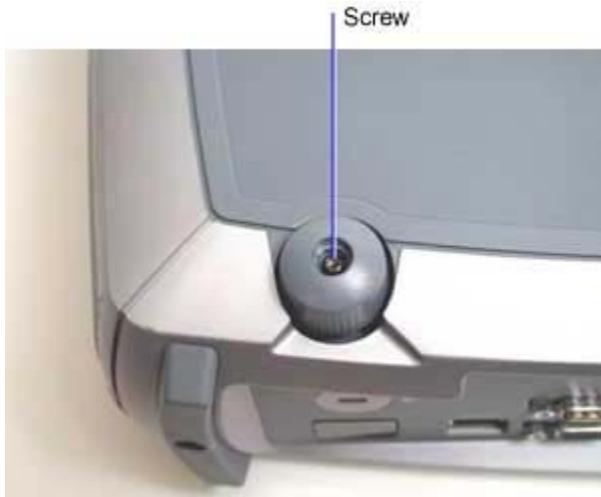
The leveling foot consists of the **leveling foot knob** and the **leveling foot shaft**. The leveling foot knob adjusts the leveling foot and fastens to the leveling foot shaft. The shaft threads to the bottom case from the inside. When you rotate the knob, the foot and shaft move up and down. You can order either piece individually.

### **Remove the leveling foot knob**

1. Place the projector upside down on a soft work surface.
2. Rotate the leveling foot counterclockwise until it is fully extended.
3. Remove the rubber foot from the knob. Save the foot for use with the replacement knob.



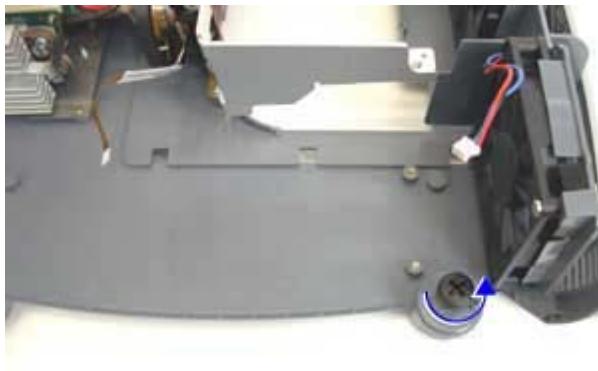
4. Remove the M3x8 Plastite Torx screw in the center of the knob.



### **Remove the leveling foot shaft**

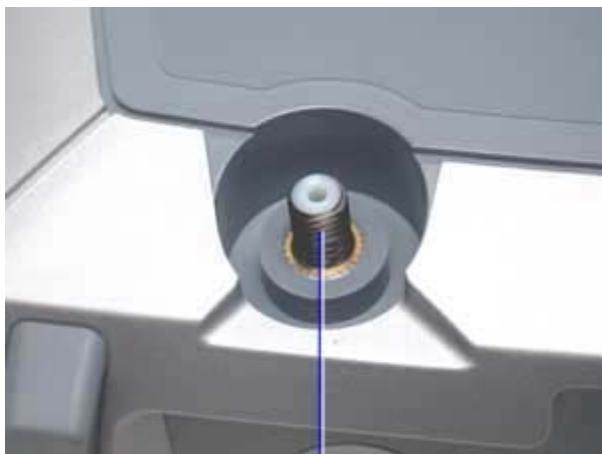
1. Remove the leveling foot knob, then remove the following items:
  - Top case (see page 57)
  - Controller ECA (see page 16)
  - Chassis (see page 13)

2. Use a Philips screwdriver to remove the shaft from inside the bottom case.



### Assembly Notes

- ◆ The end of the leveling foot shaft is keyed to fit the leveling foot knob. Make sure the knob properly fits the key on the shaft before inserting the screw.



Key on leveling foot shaft



Key on leveling foot knob

- ◆ Torque the M3x8 Plastite Torx screw to 4 in.-lbs. (.45 Nm).
- ◆ Press the rubber foot into the hole over the screw head. Use a replacement rubber foot if the adhesive fails to hold the old foot tightly in place.
- ◆ Adjust the leveling foot knob to be level with the bottom of the projector.

## Remove and Replace the Outer Handle

The top **outer handle** covers the front of the projector and helps to secure the top case to the bottom case.

Pins on the handle fit into holes through tabs on the top and bottom cases. When the pins engage the holes, the top and bottom cases lock together at the front of the projector and hold the outer handle in place.

The outer handle contains the **front IR lens**. The lens snaps into the recess in the outer handle. A new outer handle does not include a front IR lens.

1. Insert a small flat blade screwdriver behind the edge of the outer handle near the lens



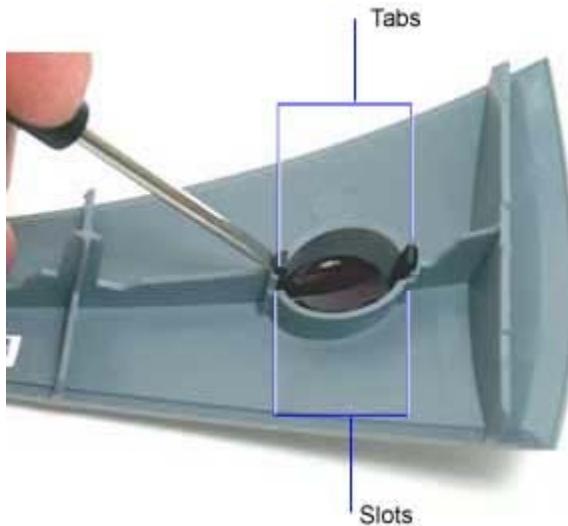
2. Gently pry the edge of the outer handle away from the projector.

**CAUTION** Don't pry against the focus ring or lens.

3. Pull the handle away from the projector. The pins on the handle disengage from the holes on the front of the projector.



4. Remove the front IR lens and save it for use with the replacement outer handle. Press on one of the tabs on the lens to disengage it from its slot on the outer handle.



#### **Assembly Notes**

- ◆ Align the two tabs on the front IR lens with the slots on the outer handle. Press the lens into place to secure it.



- ◆ Position the outer handle against the front of the projector so that the pins align with the holes in the top and bottom case tabs. Then press the outer handle into place against the front of the projector.

## Remove and Replace the Power Supply

The **power supply** fastens to the chassis. It converts 100-240 VAC supply voltage to various low voltage DC levels required internally by the projector. The power supply interfaces with the ballast through the **lamp control cable** to control lamp strike and operation, and through the **power supply/ballast cable** to provide DC power. The power supply also interfaces with the controller ECA through the **power supply/controller ECA cable** to provide DC power and exchange control signals. A **fuse** on the back of the power input connector protects against internal shorts or supply surges.

**1.** Remove the following items:

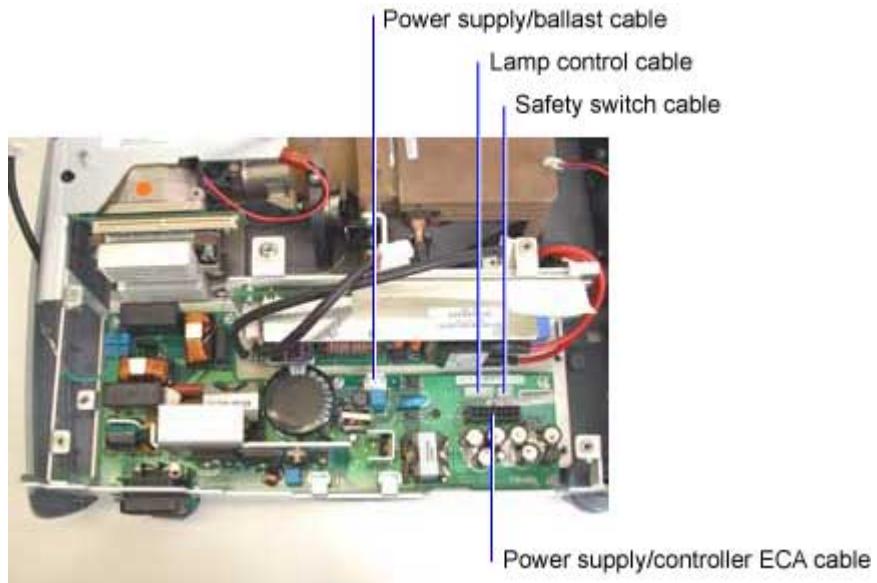
Outer handle (see page 41)

Rear bezel (see page 51)

Top case (see page 57)

Controller ECA (see page 16)

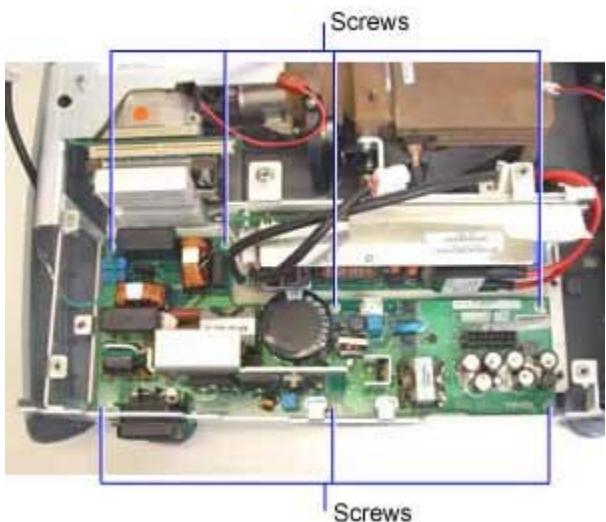
**2.** Unplug the safety switch cable from J3 on the power supply. Then unplug the power supply/controller ECA cable from P1, the ballast/power supply cable from J1 and the lamp control cable from J4 on the power supply. Squeeze the latches on the power supply/controller ECA cable and the power supply/ballast cable connectors to release them.



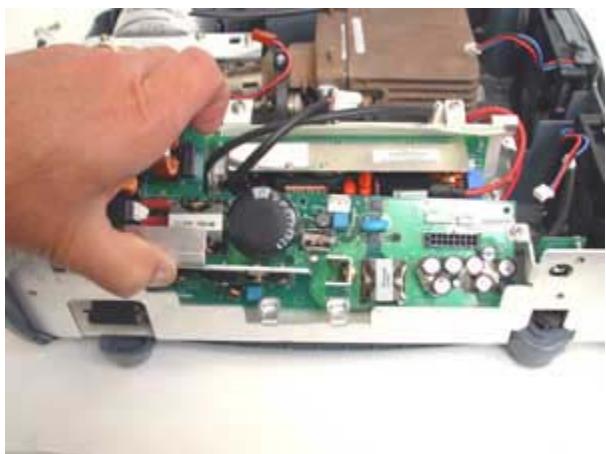
3. Remove the M3x8 Torx screw that fastens the ground terminal to the side of the chassis.



4. Use a Torx T-10 screwdriver to remove the seven M3x8 screws that fasten the power supply to the chassis.



5. Lift the forward side of the power supply to allow the AC line connector to pass through the hole in the chassis. Then lift the power supply away from the chassis.



## Replacing the Fuse

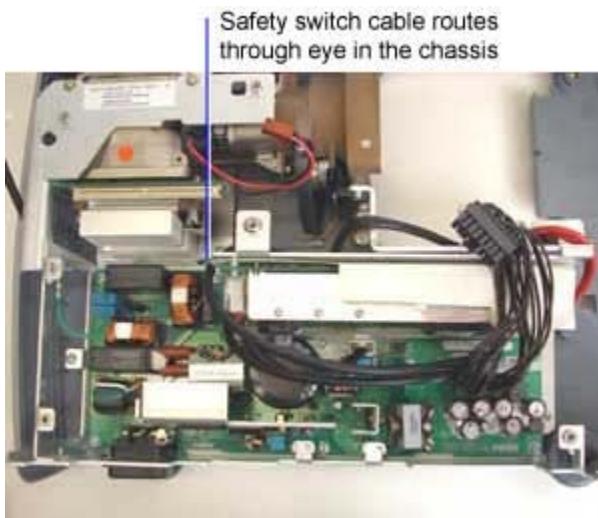
1. Use a small flat blade screwdriver to disengage the fuse from the fuse holder on the back side of the power input connector.



2. Replace the fuse by pressing it into the fuse holder. Make sure the fuse is properly engaged at each end of the fuse holder.

## Assembly Notes

- ◆ Insert the power supply into the chassis with the forward side up to allow the AC line connector to pass through the hole in the chassis.
- ◆ Torque the six M3x8 Torx screws to 6 in-lbs (.68 Nm).
- ◆ Connect the ground terminal to the chassis. Torque the M3x8 Torx screw to 6 in-lbs (.68 Nm).
- ◆ Connect the safety switch cable to J3 on the power supply. Then connect the power supply/controller ECA cable to P1, the ballast/power supply cable to J1 and the lamp control cable to J4 on the power supply.
- ◆ Make sure that you route the safety switch cable through the eye at the front left side of the chassis.



## Remove and Replace the Rear and Side IR Receivers and Lenses

The **rear IR receiver** fastens to the chassis, while the **left side IR receiver** and **right side IR receiver** are each fastened to the sides of the bottom case. The left and right side IR receivers are as you view them from the front of the projector.

Each of the side IR receivers are protected by a **side IR lens**. The rear IR receiver is protected by the **rear IR lens** in the rear bezel.

Any of the IR receivers or lenses above may be replaced separately. If you need to replace the rear IR lens, see Remove and Replace the Rear Bezel on page 51 for information.

1. Remove the following items:

Outer handle (see page 41)

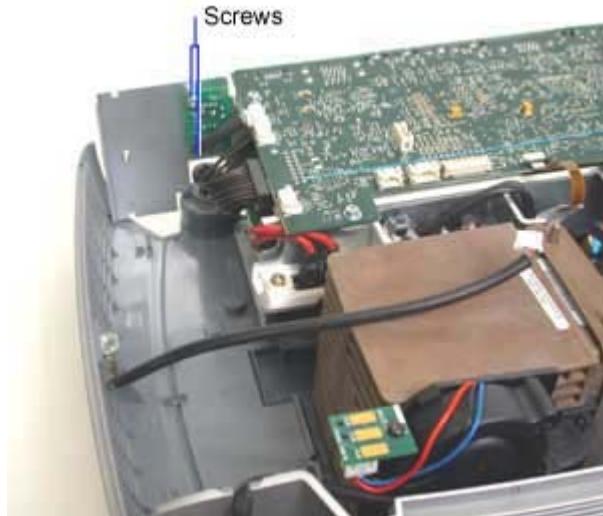
Rear bezel (see page 51)

Top case (see page 57)

Fan assembly (applies to rear IR receiver only) (see page 26)

### Rear IR Receiver

1. Unplug the rear IR receiver cable from J518 on the controller ECA.
2. Remove the two M3x8 Torx screws that fasten the rear IR receiver to the chassis.



### Assembly Notes

- ◆ Route the cable to the inside of the rear IR receiver ECA.

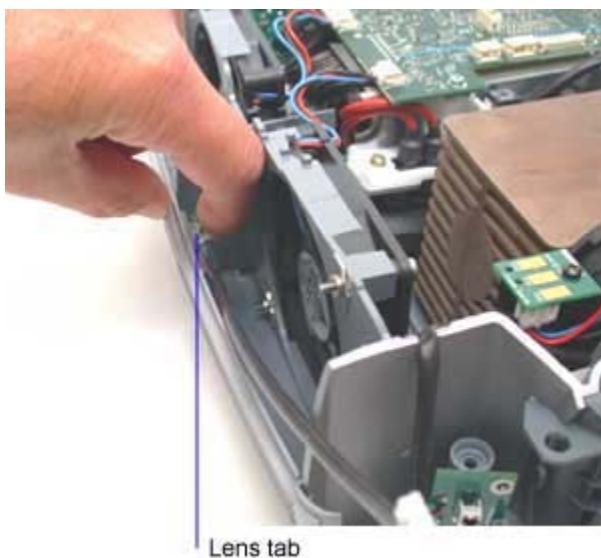


- ◆ Make sure that the rear IR receiver aligns with the hole in the chassis.
- ◆ Torque the two M3x8 Torx screws to 6 in/lbs (.68 Nm).
- ◆ Connect the cable to J518 on the controller ECA.

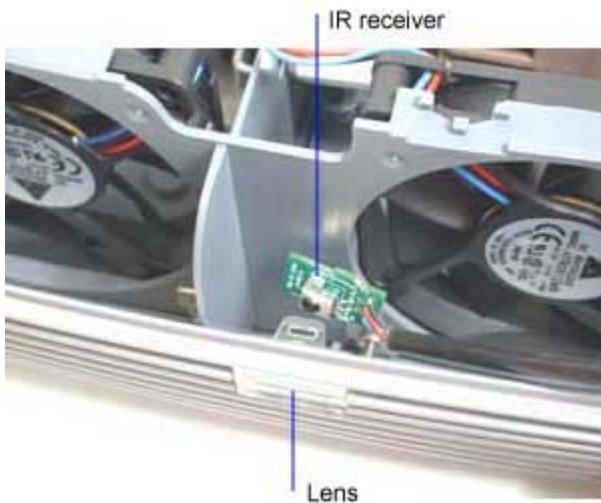
#### ***Left or Right Side IR Receivers and Lenses***

The side IR lenses hold the left and right side IR receivers in the bottom case. You use the same procedure to remove or replace either side IR receiver or lens.

1. Unplug the left side IR receiver from J508 or the right side IR receiver from J514 on the controller ECA.
2. Gently pull upward on the lens tab to disengage the slot from the tab on the IR receiver.



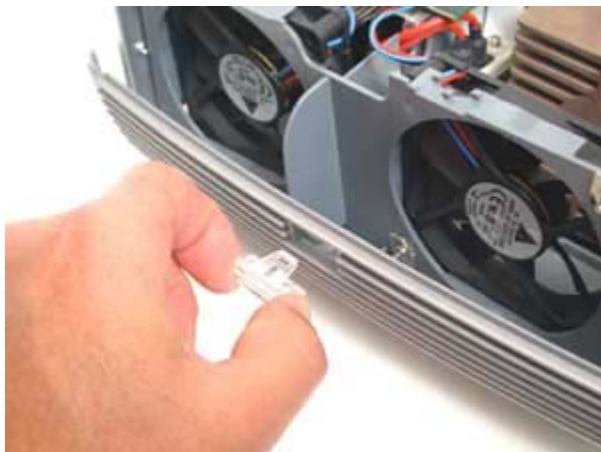
3. Remove the IR receiver from the lens.



4. Remove the lens from the bottom case using a small flat blade screwdriver. Gently pry the slot on either vertical side of the lens away from the tab on the bottom case.



5. Push the lens outward through the side of the bottom case.



## **Assembly Notes**

- Each side IR lens fits properly only one way in the bottom case. Make sure the taper on the lens face matches the taper on the side of the bottom case.
- Make sure that the tabs on the IR receiver fully engage the slots in the IR lens.
- Route the cable on the left IR receiver through the large notch at the top middle of the fan bracket.
- Connect the cable on the left side IR receiver to J508 or the cable on the right side IR receiver to J514 on the controller ECA.

## Remove and Replace the Rear Bezel

The **rear bezel** fastens to the rear of the projector and surrounds the I/O ports. The **I/O panel label** and the **rear bezel feet** adhere to the outside of the rear bezel. The rear bezel contains the **rear IR lens** and **security plate**.

If you replace the rear bezel, you need a replacement I/O panel label. You cannot remove the label from the rear bezel. A new rear bezel does not include a rear IR lens or security plate.

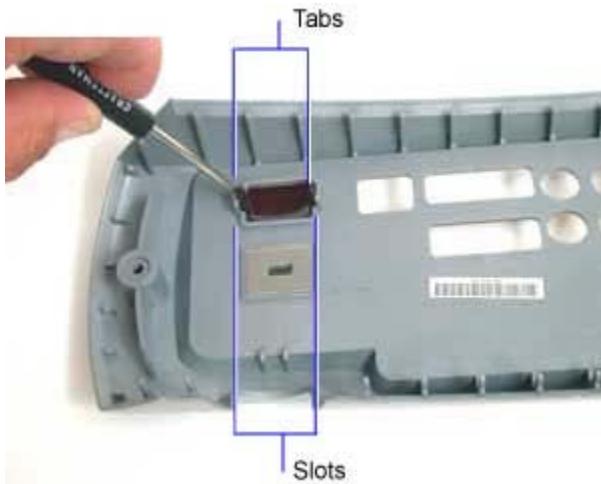
1. Remove the two M3x8 Torx screws from the rear bezel.



2. Pull the rear bezel away from the projector.



3. Remove the rear IR lens and save it for use with the replacement rear bezel. Press on one of the tabs on the lens to disengage it from the rear bezel.



4. Remove the security plate and save it for use with the replacement rear bezel. Use a small flat blade screwdriver to gently pry the security plate away from the rear bezel.



### ***Assembly Notes***

When you install a new rear bezel:

- ◆ Affix the new I/O panel label to the outside of the bezel.
- ◆ Align the two tabs on the rear IR lens with the slots on the rear bezel. Press the lens into place against the outside of the rear bezel.
- ◆ Affix the security plate to the inside of the bezel. If the plate is new, remove the protective paper from the adhesive before installing it. Position the security plate in the recess on the inside of the rear bezel. Press the plate firmly against the rear bezel.
- ◆ Torque the two M3x8 Torx screws to 6 in/lbs (.68 Nm)

## Remove and Replace the Rear Bezel Feet

The two **rear bezel feet** allow the projector to stand upright on the rear bezel. Each foot adheres to the rear bezel without fasteners.

1. Remove a rear bezel foot by inserting a small flat blade screwdriver or dental pick between the foot and the rear bezel.



2. Gently peel the foot away from the bezel. You don't need to remove any adhesive remaining on the rear bezel after you remove the foot.

To replace a bezel foot, peel the protective paper from the replacement foot. Then press the foot into the recess on the rear bezel.

## Remove and Replace the Rubber Feet

The two **rubber feet** are located on the bottom case at the rear of the projector. One foot adheres to the bottom case while the other foot adheres to the bottom of the leveling foot knob.

1. To replace a rubber foot, peel the protective paper from the replacement foot. Then press the foot into the recess in the bottom case. If you need to remove an old rubber foot, gently pry it away from the bottom case.



## Remove and Replace the Safety Switch and Lamp Connector Retainer

The **safety switch** interrupts power output from the power supply when the lamp door is removed from the projector. It is located on the front side of the chassis in the lamphouse. A thermal switch mounted near the safety switch monitors temperature in the projector lamphouse and cancels power supply output if the temperature rises too high. The thermal switch and safety switch share a common cable to the power supply. A new safety switch includes a thermal switch.

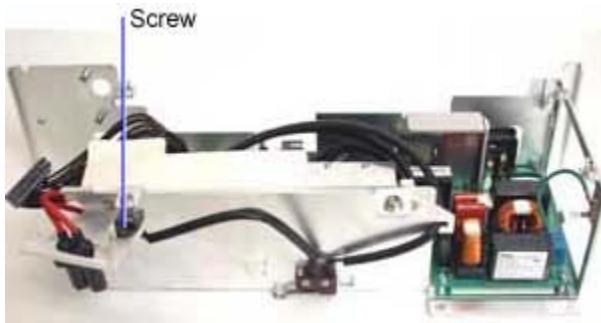
The **lamp connector retainer** fastens to the chassis near the thermal switch. It holds the lamp connector in a secure position in the lamphouse.

Remove the following item:

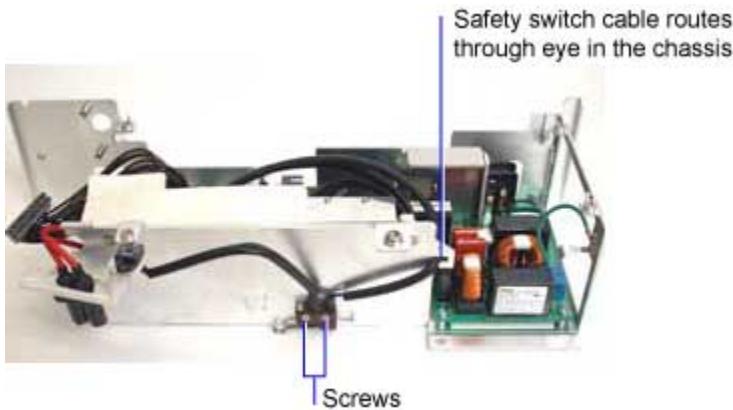
Chassis (see page 13)

### **Safety Switch**

2. Unplug the safety switch cable from J3 on the power supply. Then remove the M3x6 Torx Plastite screw that fastens the thermal switch to the lamp connector retainer.



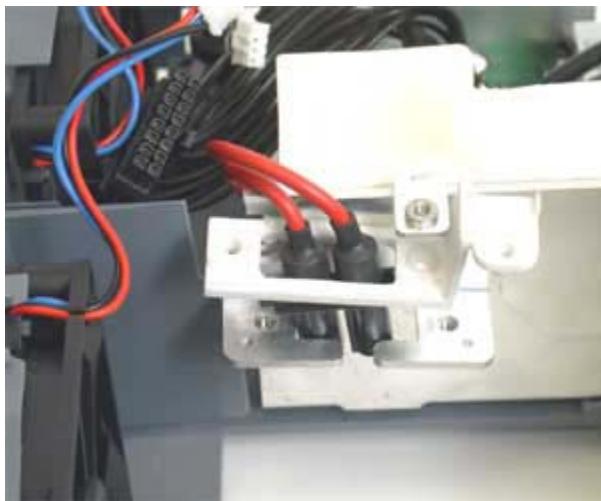
3. Remove the two M2x8 Torx screws that fasten the safety switch to the chassis. Then remove the safety switch cable from the eye on the chassis.



4. Remove the safety switch from the chassis.

### **Lamp Connector Retainer**

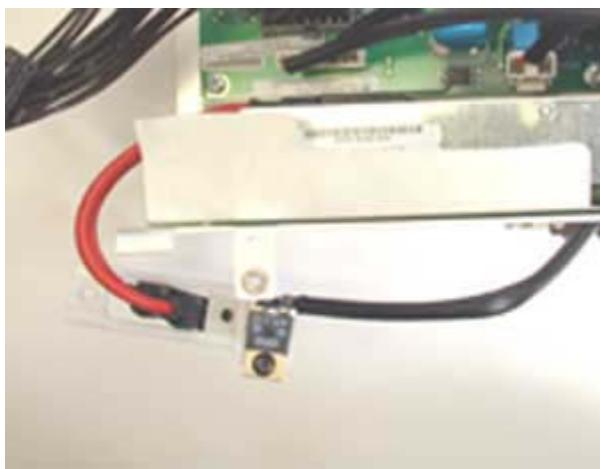
1. Lift the lamp connector through the rectangular slot in the lamp connector retainer.



2. Remove the lamp connector retainer.

### **Assembly Notes**

- ◆ To install the safety switch, orient it so that the lever actuator faces away from the mounting tab on the chassis. The curved portion of the lever actuator fits into the slot in the bottom case near the lamp cavity. A tab on the lamp door fits through the slot to close the safety switch when the lamp door is in place.
- ◆ Torque the two M2x8 Torx screws to 6 in/lbs. (.68 Nm).
- ◆ Orient the thermal switch on lamp connector retainer so that the screw hole on the switch aligns with the hole in the retainer. The white lettering on the switch should face up.



- ◆ Torque the M3x6 Torx Plastite screw to 3 in/lbs (.34 Nm).
- ◆ After you install the safety switch, route the cable through the eye on the chassis. Connect the cable to J3 on the power supply.

## Remove and Replace the Top Case

The **top case** covers the top half of the projector. Once you remove the top case, you have access to FRUs inside the projector. When you replace the top case, you need to adhere a new **nameplate** to the top case.

A new top case contains two speakers. You cannot remove the speakers from the top case.

1. Remove the following items:

Rear bezel (see page 51)

Outer handle (see page 41)

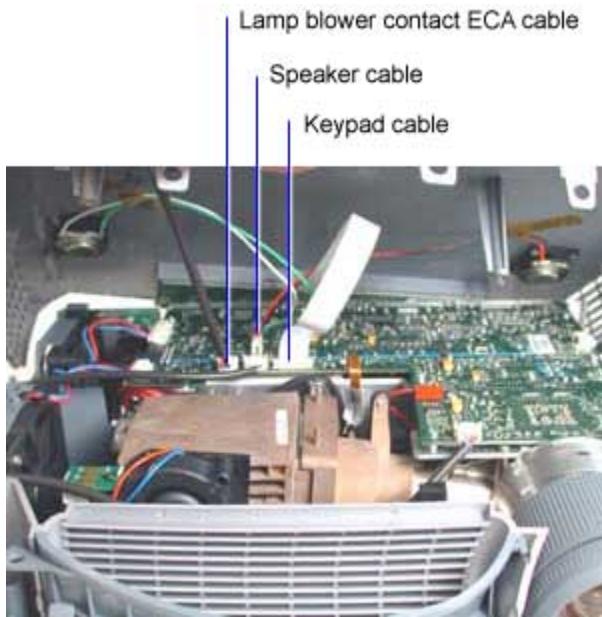
2. Place the projector right side up on the bench, and then remove the two black M3x8 Torx screws from the bottom case.



3. Slowly lift the top case away from the projector. Avoid stress on the cables that run between the top case and controller ECA.



4. Unplug the lamp blower contact ECA cable and the speaker cable from their connectors on the controller ECA. Then disconnect the keypad cable from the ZIF connector on the controller ECA.



5. If you are going to replace the top case with a new one, remove the top case parts (see page 59) and save them for use with the replacement top case.

#### ***Assembly Notes***

- ◆ If you're replacing the top case with a new one, install the top case parts (see page 59) that you removed from the old one.
- ◆ Adhere a new nameplate to the top case in the recess near the handle.
- ◆ Connect the keypad lamp blower contact ECA cable, the speaker cable and the keypad cable.
- ◆ Make sure that the top case fits flush over the bottom case.
- ◆ Torque the two black M3x8 Torx screws to 6 in.-lbs. (.678 Nm).

## Remove and Replace the Top Case Parts

The top case parts include the following:

- ◆ Keypad
- ◆ Key set
- ◆ Keypad reflector
- ◆ Lamp blower contact ECA
- ◆ Elevator button

The speakers are part of the top case. You cannot remove them.

1. Remove the following items to access the top case parts:

Rear bezel (see page 51)

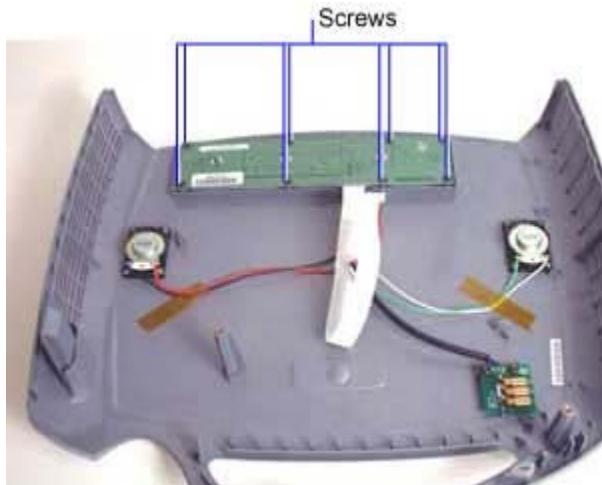
Outer handle (see page 41)

Top case (see page 57)

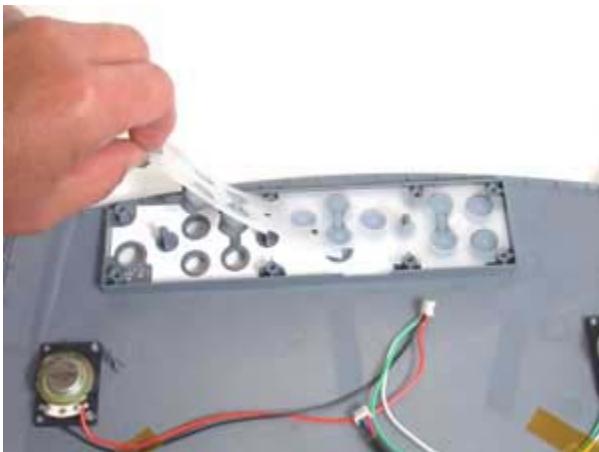
2. Place the top case face down on a soft work surface.

### Keypad Parts

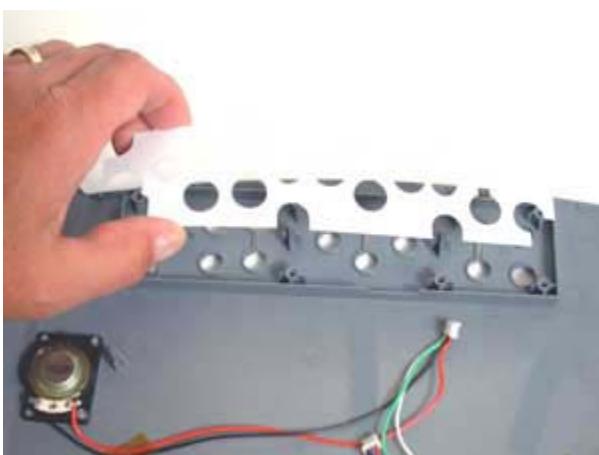
1. Remove the eight black M3x6 Plastite Torx screws that fasten the keypad to the top case. Then lift the keypad ECA out of the recess in the top case.



2. Gently lift the key set out of the top case.

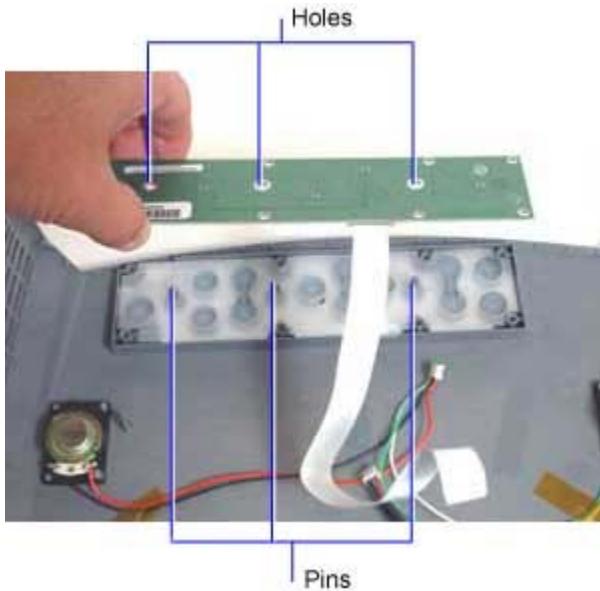


3. Use a small flat blade screwdriver to lift one corner of the keypad reflector. Then lift the reflector out of the keypad recess in the top case.

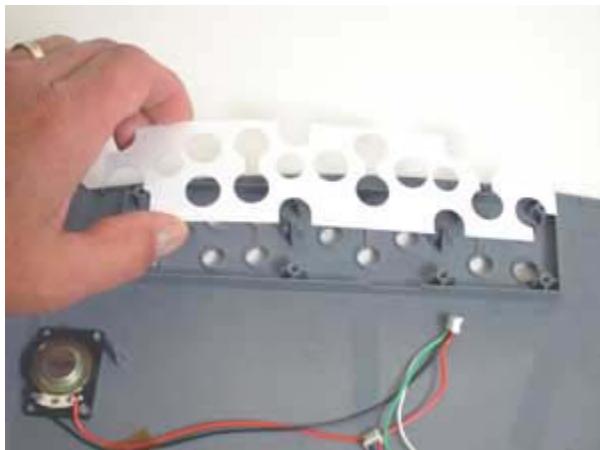


## Assembly Notes

- ◆ The keypad ECA, the key set and the keypad reflector fit only one way in the top case. Make sure that the alignment holes in the keypad ECA fit over the pins in the top case.



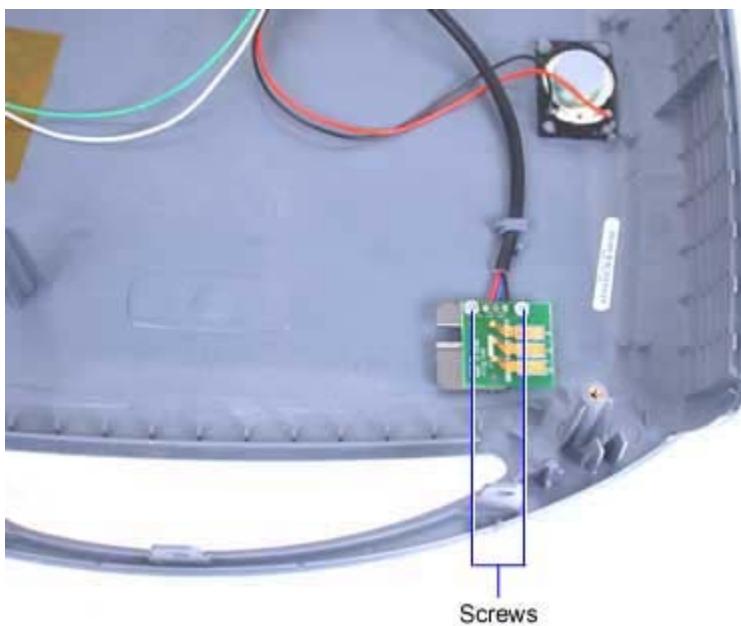
- ◆ If the keypad reflector is new, remove the protective paper from the adhesive before installing it. Position the reflector in the recess on the inside of the top case. Press the reflector firmly against the top case.



- ◆ Make sure that the collar on each key fits flush against its hole in the top case.
- ◆ Torque the eight black M3x6 Plastite Torx screws to 4 in.-lbs. (.452 Nm).

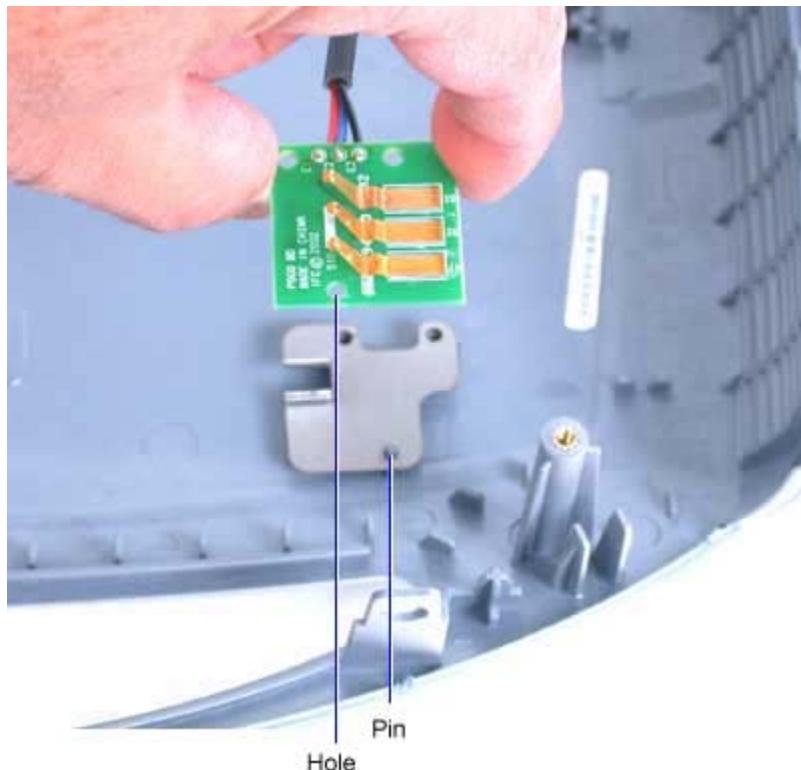
### Lamp Blower Contact ECA

1. Remove the two black M3x8 Plastite Torx screws that fasten the lamp blower contact ECA to the top case. Then lift it out of the top case.



### Assembly Notes

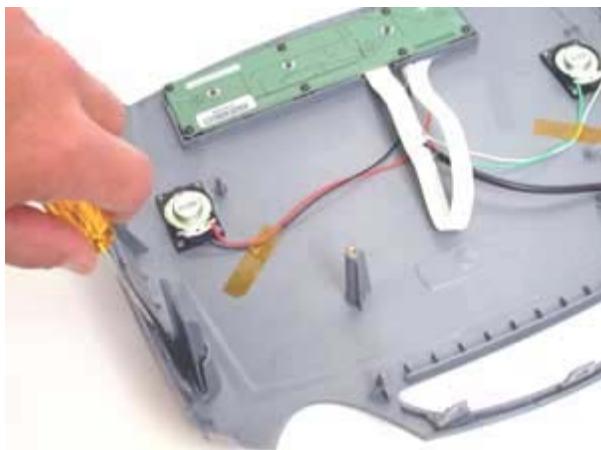
- ◆ Make sure that the pin on the inside of the top case engages the hole in the lamp blower contact ECA.



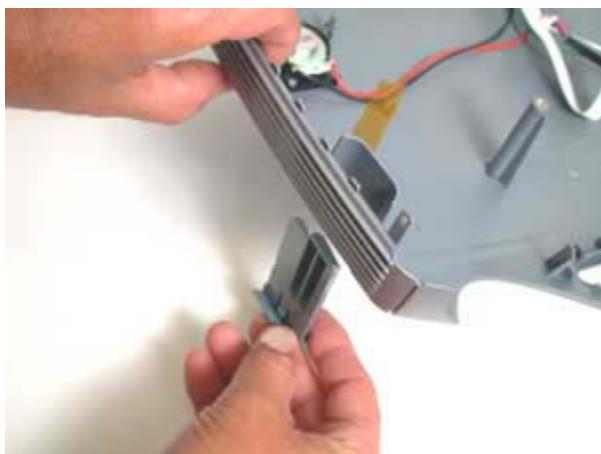
- ◆ Torque the two black M3x8 Plastite Torx screws to 4 in.-lbs. (.452 Nm).

### **Elevator Button**

1. Use a small flat blade screwdriver to depress the retainer tab on the side of the elevator button.



2. Slide the button out of the top case.



# Functional Tests

You perform the functional tests after you've repaired the projector to make sure all components of the projector operate properly. You can also perform the functional tests if you're having trouble determining what is wrong with the projector. For additional help in diagnosing trouble with the projector, see Troubleshooting on page 68.

## Required equipment

Equipment	Notes
Composite video DVD player with S-video capability	Make sure the video player has an S-video Out port and cables. The player should also have a Composite video output port (RCA). <b>Use a DVD player to test the video quality.</b> DVD players reproduce colors better and project sharper images. The least preferable is a VCR. If you must use a VCR, make sure you use a commercially produced recording, not one recorded from a broadcast source. The VCR must include an S-video connector in addition to a composite connector.
Commercially produced video to test S-video, composite video, and audio.	You'll need the video in DVD, laser disc, or videocassette format. Use <i>Video Essentials, Optimizing Your Audio/Video System</i> (DVD International, 1997) available at <a href="http://www.infocus.com/service/asc/lp530/english/tests_ve.asp">http://www.infocus.com/service/asc/lp530/english/tests_ve.asp</a>
Audio & Video cables	Use the Digital Video Interface (DVI) cable, and composite and component video cables.
Computer cables	M1-A and M1-DA cables for both analog and digital playback. HD15 VESA cable for analog video playback.
Trigger cable	Cable should have a 3.5mm mini-plug to test the projector's 12V trigger outputs.
RGB test screens in a PowerPoint presentation	Use downloadable test patterns to check image quality. ( <a href="http://www.infocus.com/service/software/downloads/test_screens.exe">http://www.infocus.com/service/software/downloads/test_screens.exe</a> )
PC with digital video and sound card	Make sure the card has an M1 Digital Video Interface (DVI) output port. The computer must have a CD-ROM and a standard VESA connector for analog output.

Remote control and cable	Ensure that the remote has fresh AA batteries and a cable output port.
Projection screen	Use a flat screen, not a curved one.

## Before beginning

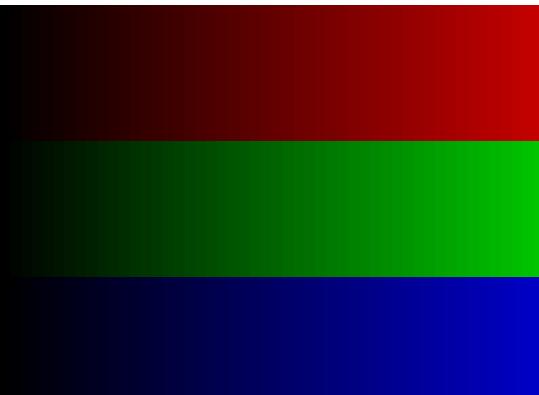
Make sure the work surface where you perform the functional tests is level and clean. Place the projector on a soft surface (such as an anti-static mat) when running the tests.

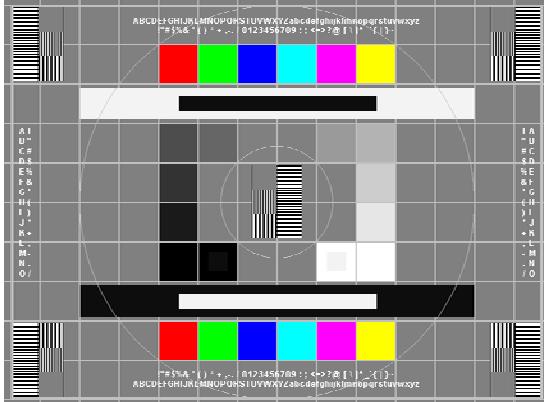
Connect the following to the I/O panel on the projector:

- ◆ Video player through Composite Video and S-video ports
- ◆ Video player through Component Video ports
- ◆ Computer through M1A cable

Perform the following tests

Test	Verification
<b>Power Up</b> Connect AC power, and turn the unit on.	Verify that the proper splash (logo) screen appears. If the incorrect logo screen appears, you must install the proper brand system software. The logo screen is automatically installed when you do this. Verify image quality.
<b>Cosmetics and mechanicals</b> Adjust the projector so that the image is square. Make sure the lens is at a 90° angle to the wall.	Verify that the elevator and leveling foot are functional. Verify that the focus and zoom rings operate properly. Verify cosmetics.
<b>Composite video from video source</b> On the <b>keypad</b> , press the <b>Source</b> button to select <b>Composite Video</b> .	Verify that the video automatically synchronizes. If it doesn't, press the <b>Video</b> button on the keypad. Verify there is no distortion, noise or other abnormalities. Verify that the audio plays clearly.
<b>Component video from video source.</b> On the <b>keypad</b> , press the <b>Source</b> button to select <b>Component Video</b> .	Verify that the video automatically synchronizes. If it doesn't, make sure you've selected the correct video source. Verify there is no distortion, noise or other abnormalities. Verify that the audio plays clearly
<b>S-Video from video source</b> On the <b>keypad</b> , press the <b>Video</b> button to select <b>S-video</b>	Verify that the video automatically synchronizes. Verify there is no distortion, noise or other video abnormalities.
<b>Software Version / Keystone / Factory Reset</b> 1. Press and hold the <b>Keystone up</b> and <b>Keystone down</b> button on the keypad.	Verify that the keystone adjustment works properly. Verify software version.

<p>2. Press the <b>Menu</b> button. Navigate to the <b>Settings</b> menu. Select <b>Service</b>. In Service menu, select Service Info. In the <b>About</b> message box, check the software version.</p> <p>3. Return to the <b>Service</b> menu. Select <b>Factory Reset</b>. Press the menu button to close the menus.</p>	<p>Verify the keys are not sticky.</p>
<p>The next step is to observe 3 computer images. These will confirm that the computer input works properly, and will test image quality.</p> <p>On the keypad, press the <b>Source</b> button to select Computer.</p>	
<p><b>Image #1: Focus Test Image</b></p> <ol style="list-style-type: none"> <li>1. Turn off any local light.</li> <li>2. Turn the <b>zoom ring</b> to make the smallest image.</li> <li>3. Focus the image so the middle icon is clearly focused.</li> <li>4. Focus the image on the 4 green squares.</li> <li>5. After focusing on the green squares on the middle icon, turn the <b>zoom ring</b> to make the largest image, then repeat the focus tests.</li> </ol>	     <p>Verify that all four corner icons have clear resolution    Verify that the white space is visible on all 5 bar/line icon areas (between green).    Verify that the image focuses through the full zoom range.    Verify that the image remains in focus when the Image Shift knob is turned.</p>
<p><b>Image #2: Color Ramp</b>    Project the Color Ramp image.</p>	 <p>Verify there are no missing parts of the ramp.</p>

	<p>Verify that the bars are not flashing. Verify that the transitions from light to dark are smooth and gradual.</p>
<b>Image #4: SMPTE133</b> Project the SMPTE133 image.	 <p>Verify that there are no noise, tint, duplicating columns, or other general image abnormalities present</p>
On the keypad, press Menu. On the Display menu, select Factory Reset.	Verify that the image synchronizes.
<b>IR in port test</b>	Connect a cable between the remote control and the IR in port on the projector. Verify that the projector responds to remote commands through the port.
<b>12V trigger port test</b>	Trigger 2 should read 12VDC whenever the projector is powered on and in 16:9 display mode.
<b>Power Down</b> After all tests are complete, turn the power off and disconnect all cables. Attach the lens cap.	Verify unit is powered off before disconnecting cables.

# Troubleshooting

You use the Troubleshooting section to diagnose problems with the projector. In this section, you will find troubleshooting flowcharts for a variety of symptoms. Each flowchart leads you through a series of steps that will ultimately result in a solution. The solutions begin with the most simple and progress to the most complex.

What do you want help solving?

**Power problems**, including lamp issues, partial power up, shutdown and no power (page 69)

**Image problems**, including no image, bad color, dim image and other picture distortions (page 77)

**Keypad problems** (page 81)

**Remote problems** (page 82)

**Audio problems** (page 83)

## Power and Start-up Problems

Troubleshooting TDP-MT8 power problems is different from prior projectors. The TDP-MT8 communicates its status via an LED located on the keypad. When this status LED is green, you know that the projector is working properly. When the status LED is solid red or flashing red, you know there are lamp, power or startup problems. The frequency with which the status indicator blinks red indicates one of several error codes. These error codes provide crucial information about projector malfunctions.

Go to **Power Diagnostics, Part 1** on page 70.

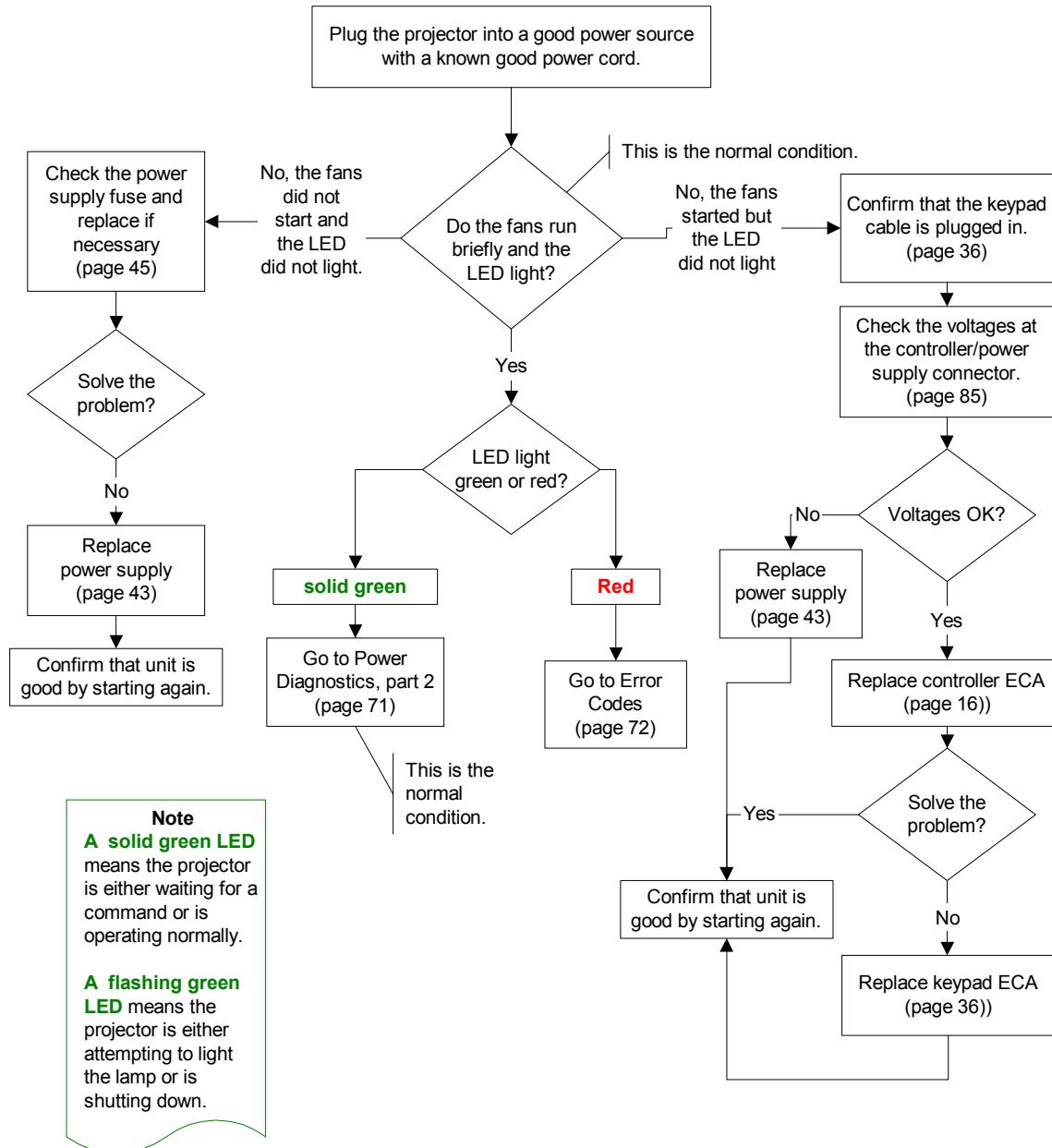


Below is a table that shows the meaning the various LED states.

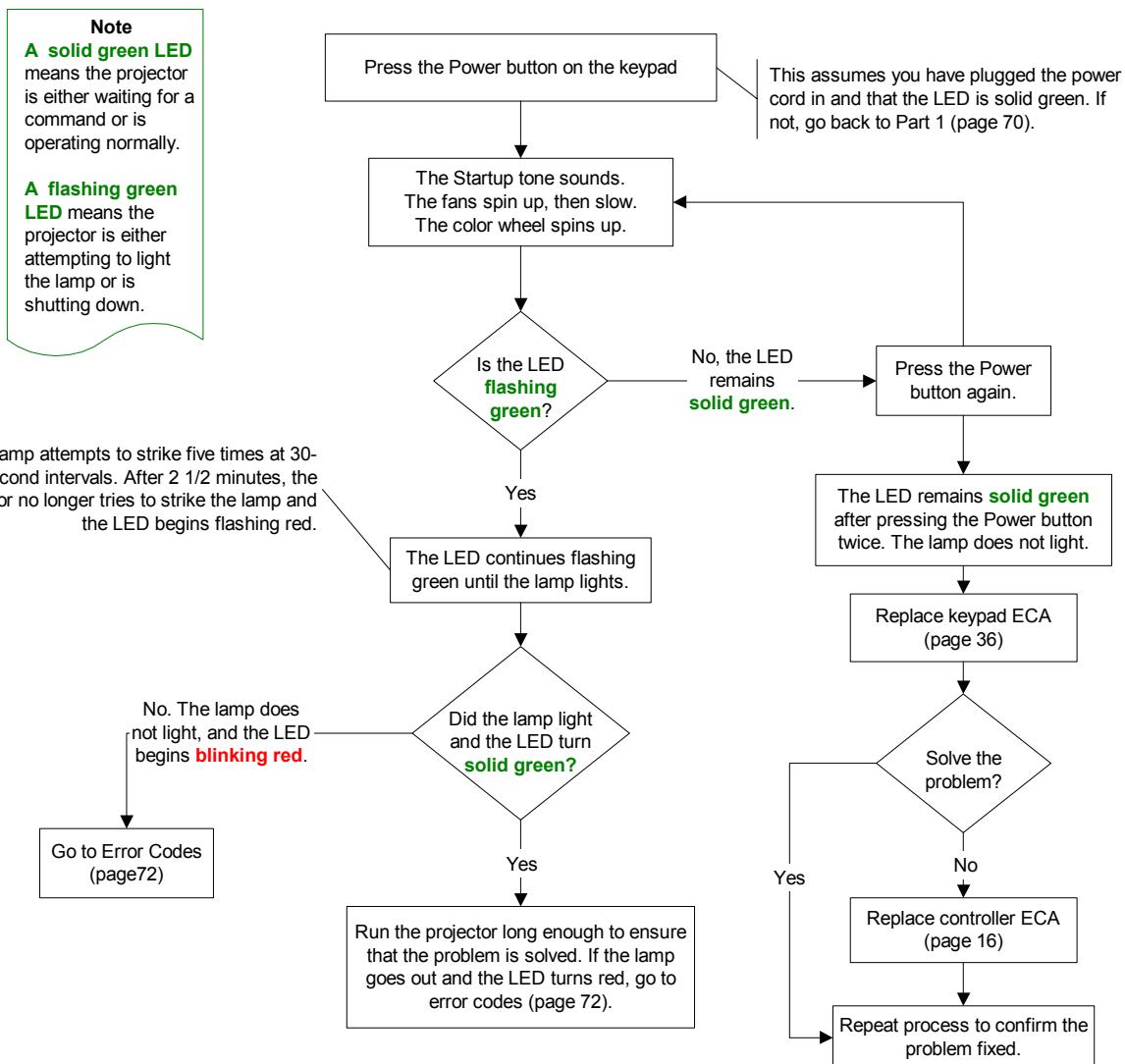
**NOTE** We strongly suggest that you follow the entire power diagnosis sequence (page 70).

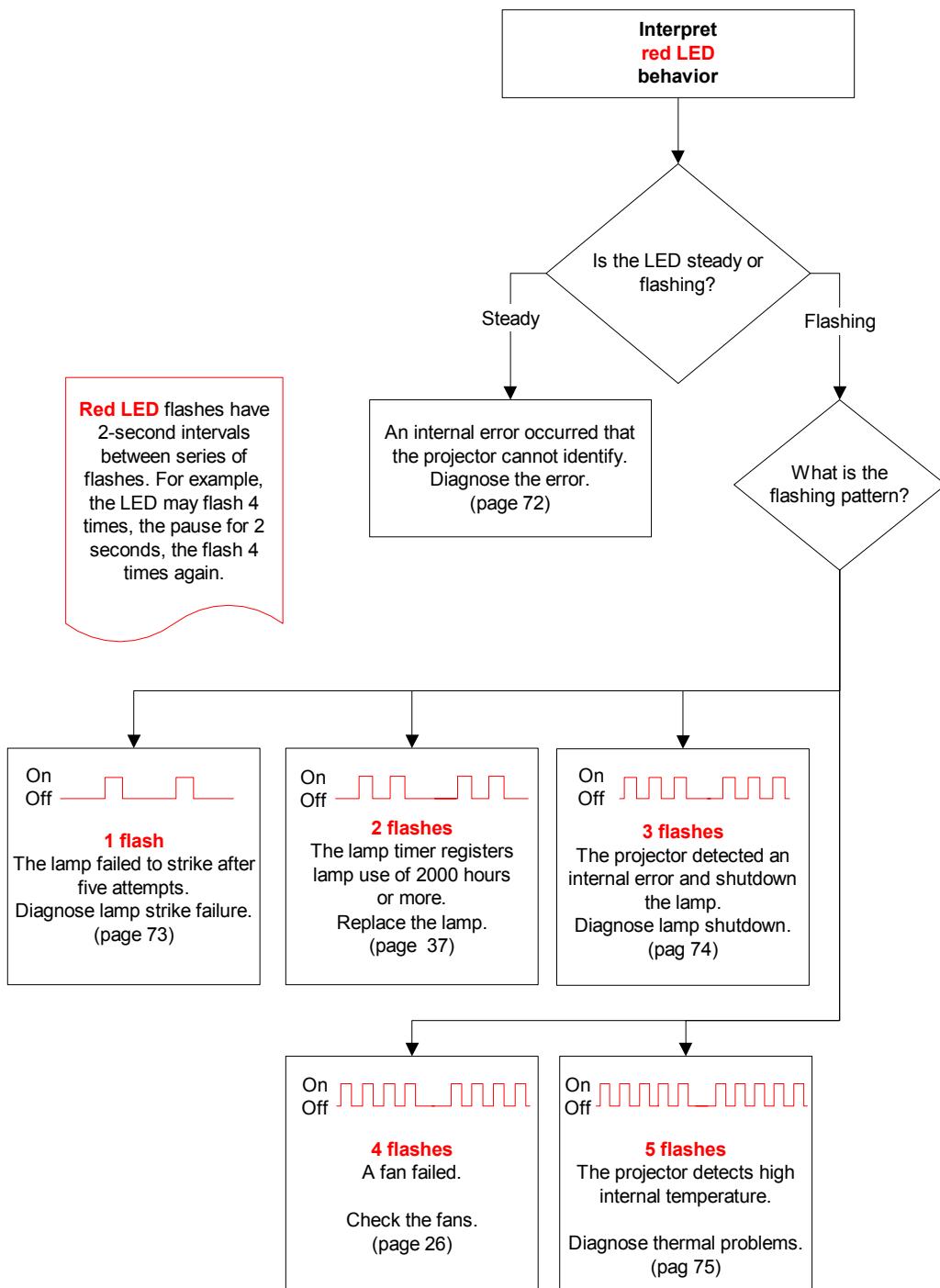
LED Status	
LED flashes green	The projector is starting up after the Power button was pressed, or the projector is shutting down after the Power button was pressed.
LED is solid green	The projector is ready to light the lamp when the Power button is pressed. Or the lamp is lit and the projector is operating properly.
LED flashes red once	The lamp will not strike after five tries (2 1/2 minutes).
LED flashes red two times	The lamp has more than 2,000 hours of use. Requires replacement. Projector shuts down.
LED flashes red three times	Lamp failure. Projector shuts down.
LED flashes red four times	One or more fans not operating. Projector shuts down.
LED flashes red five times	High temperature condition. Projector shuts down.
LED is solid red	Undiagnosed error. Projector shuts down.

## Power Diagnostics, part 1

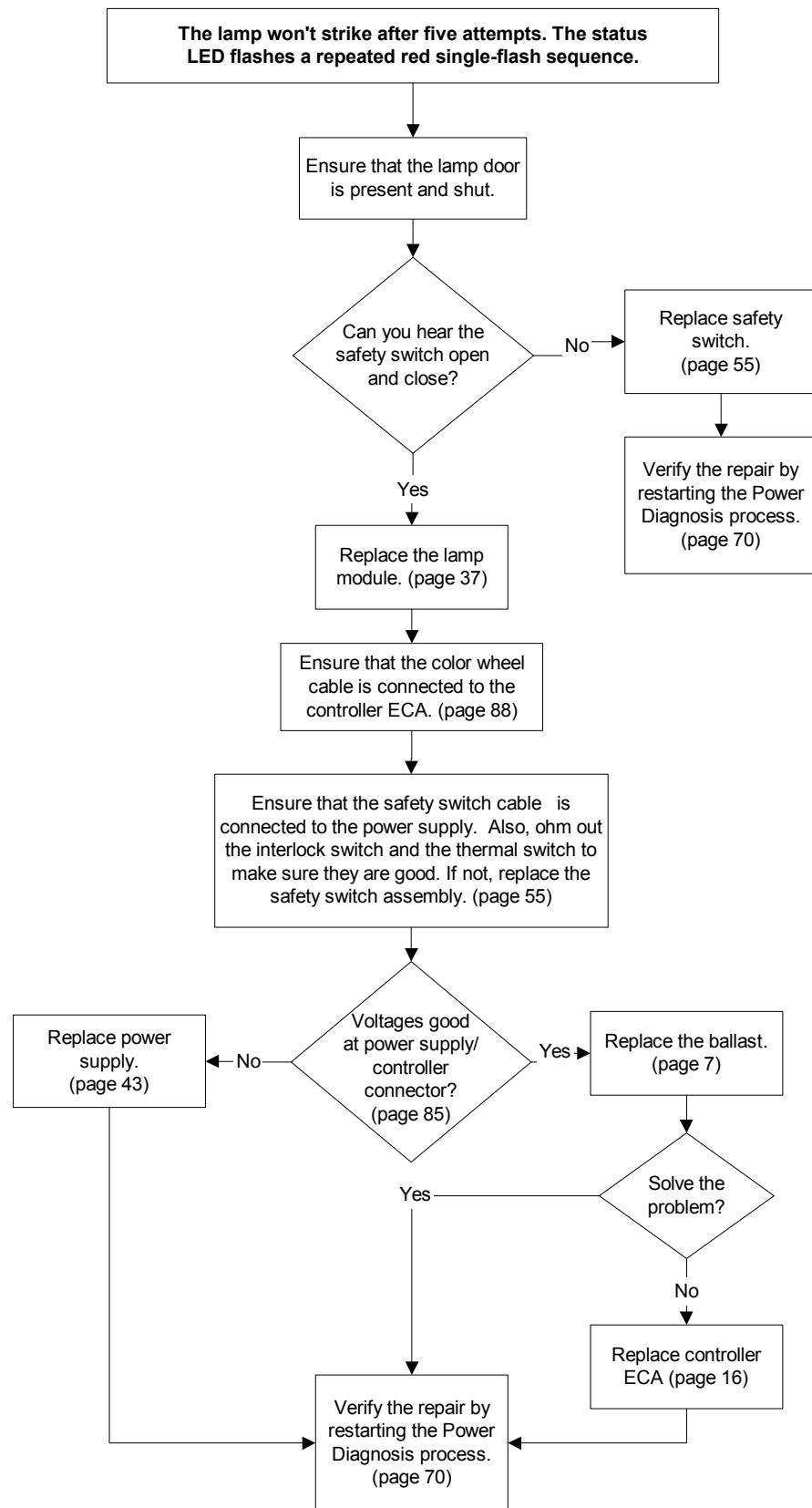


## Power Diagnostics, part 2

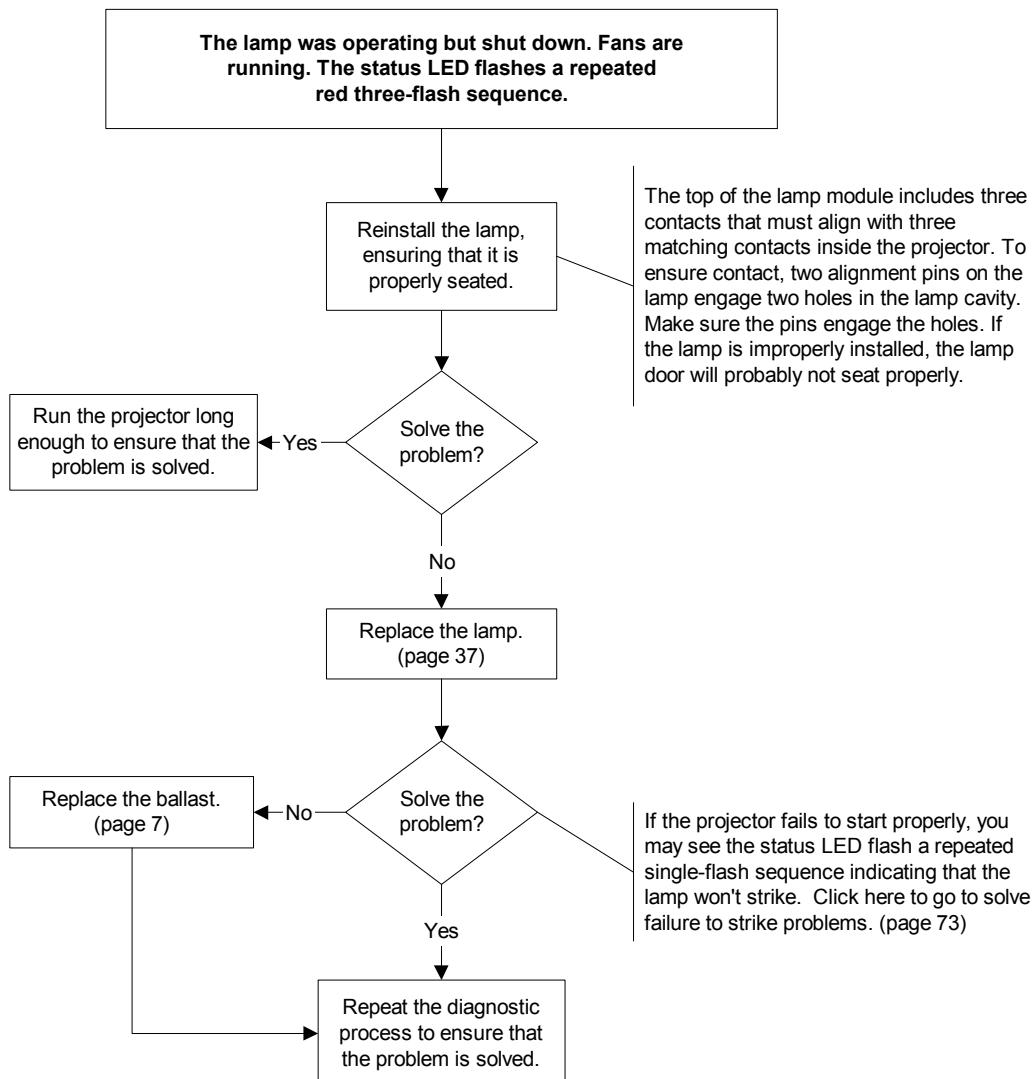




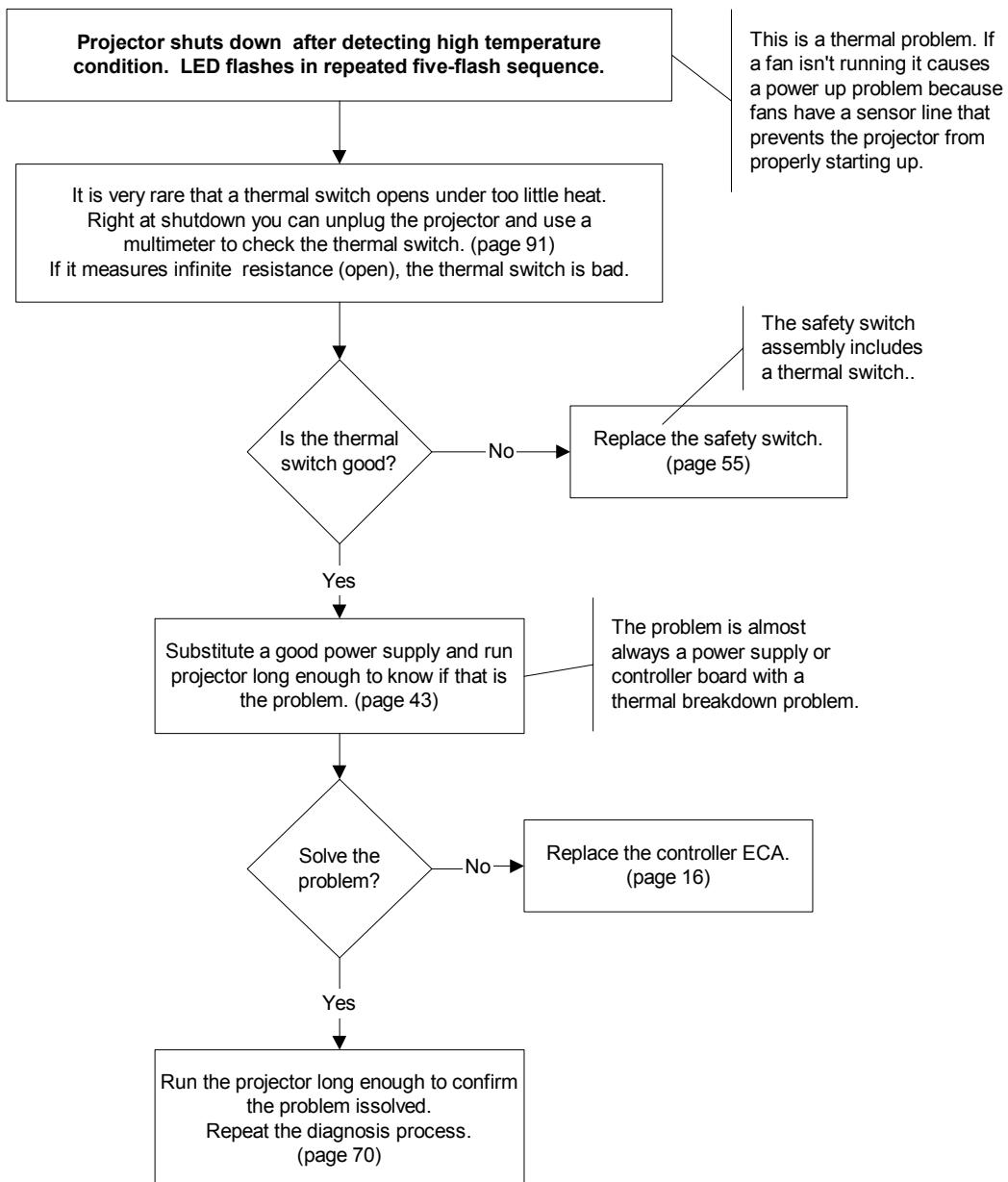
## LED flashes single red



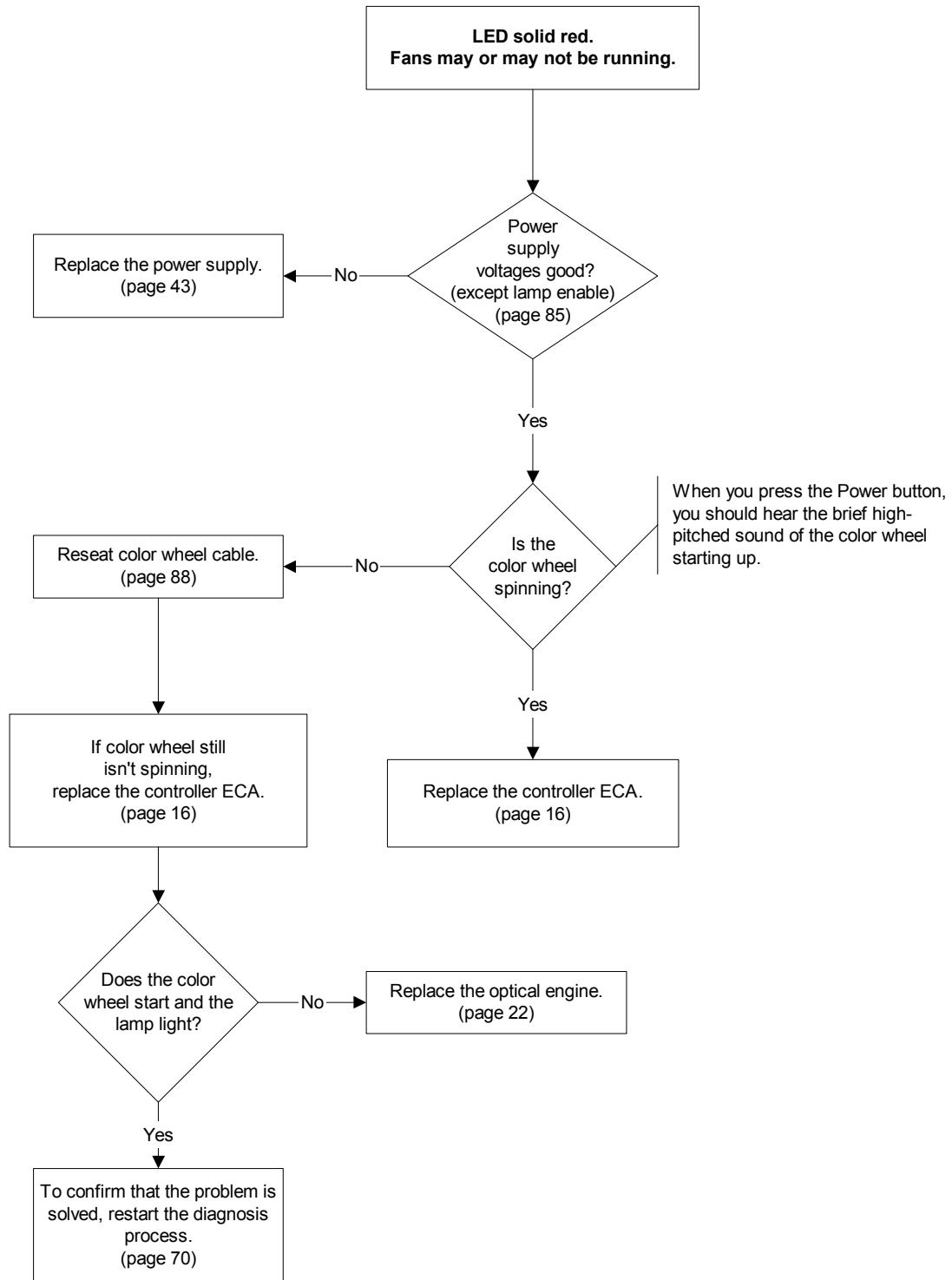
## LED repeats 3 flash sequence



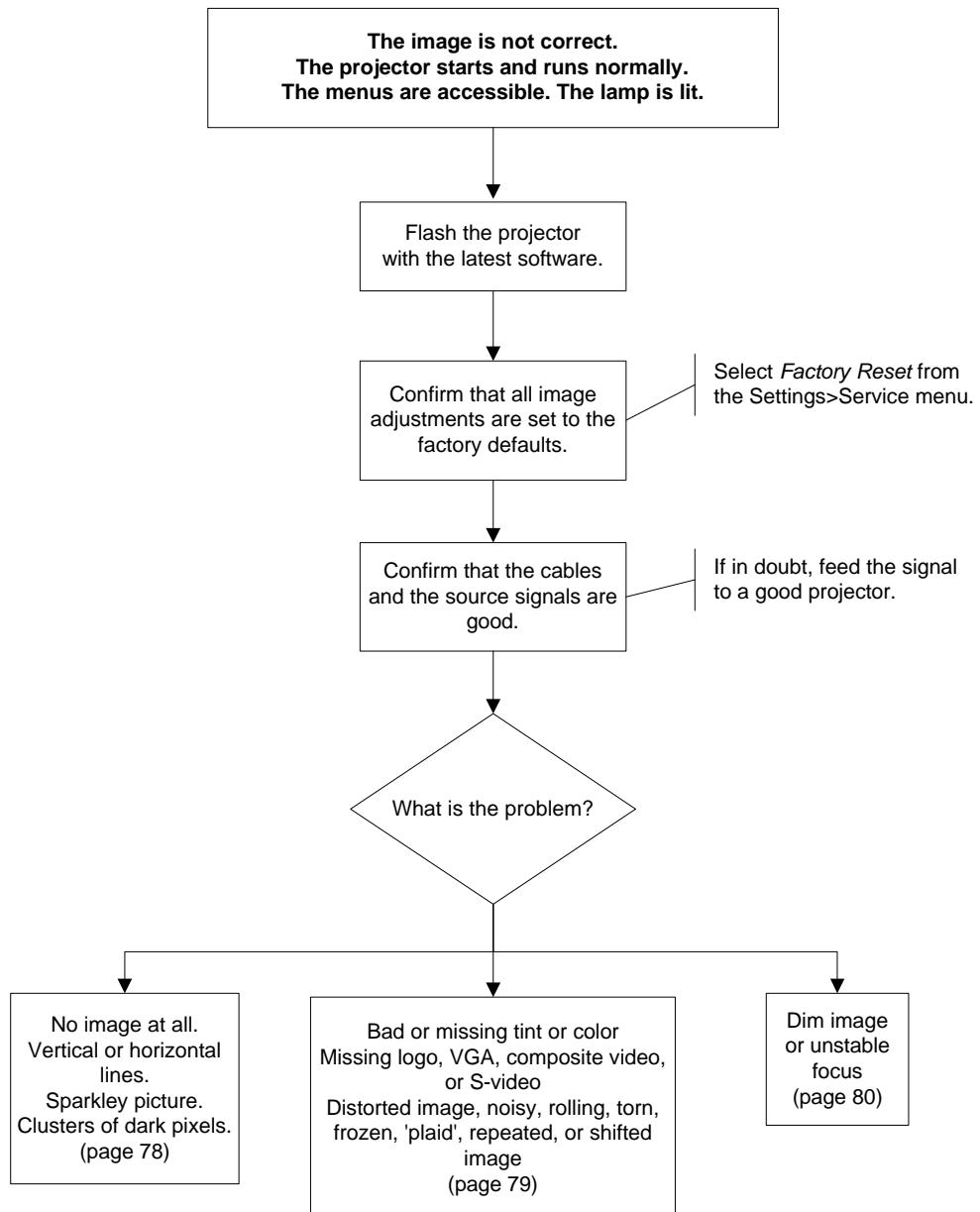
## LED repeats 5 flash sequence



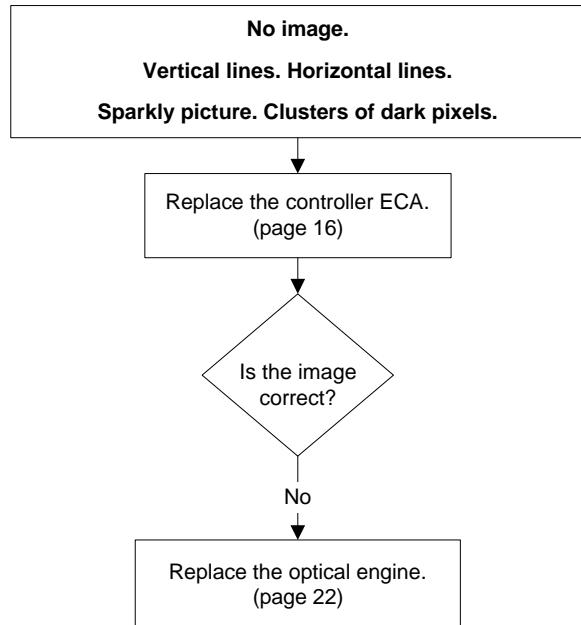
## LED solid red



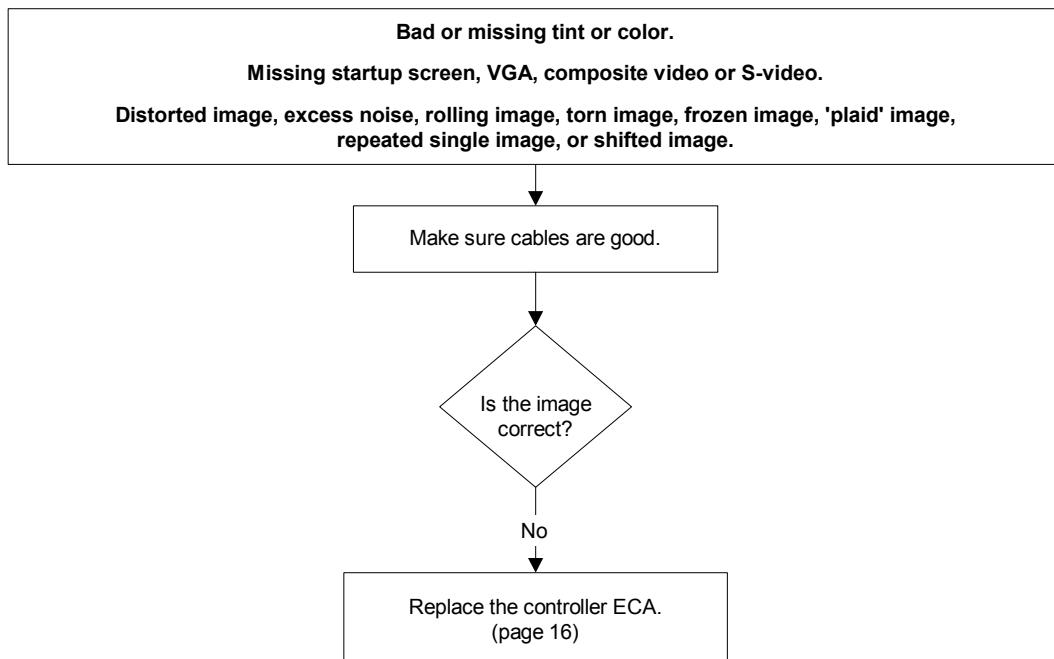
## Image Problems



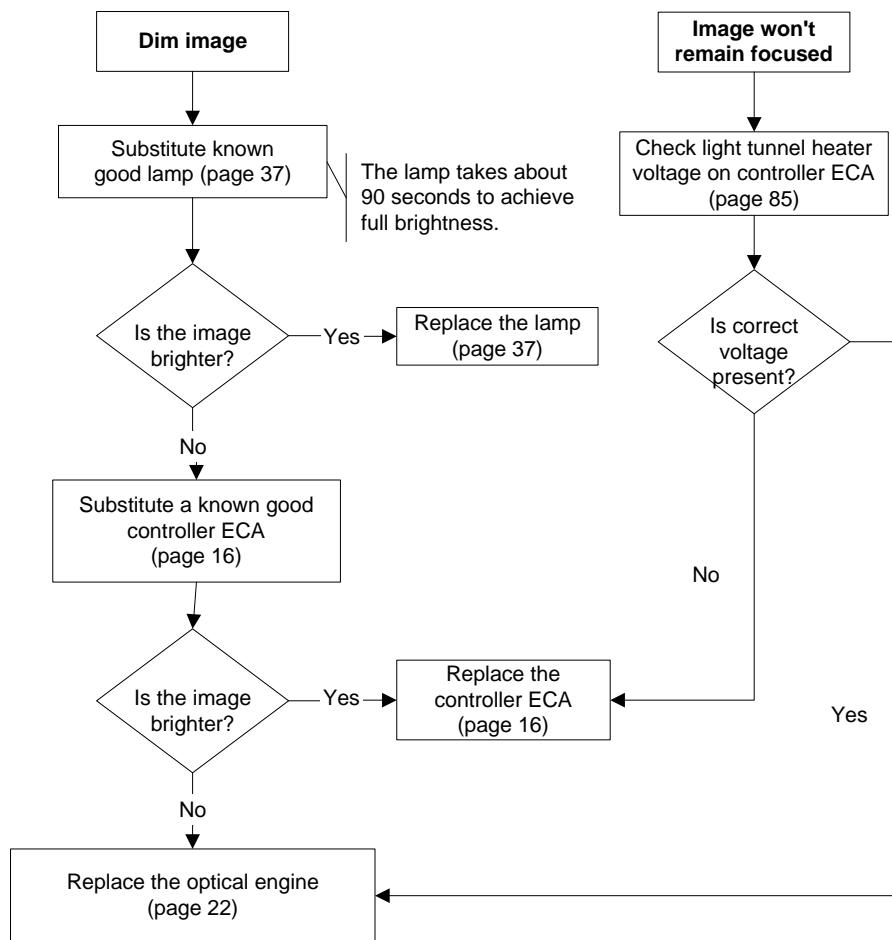
**No image**



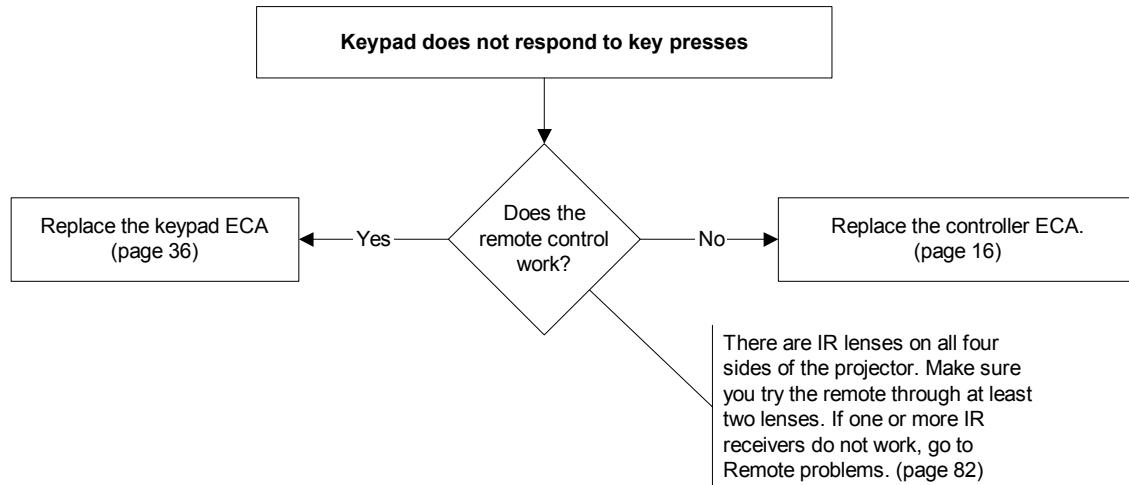
## ***Bad image***



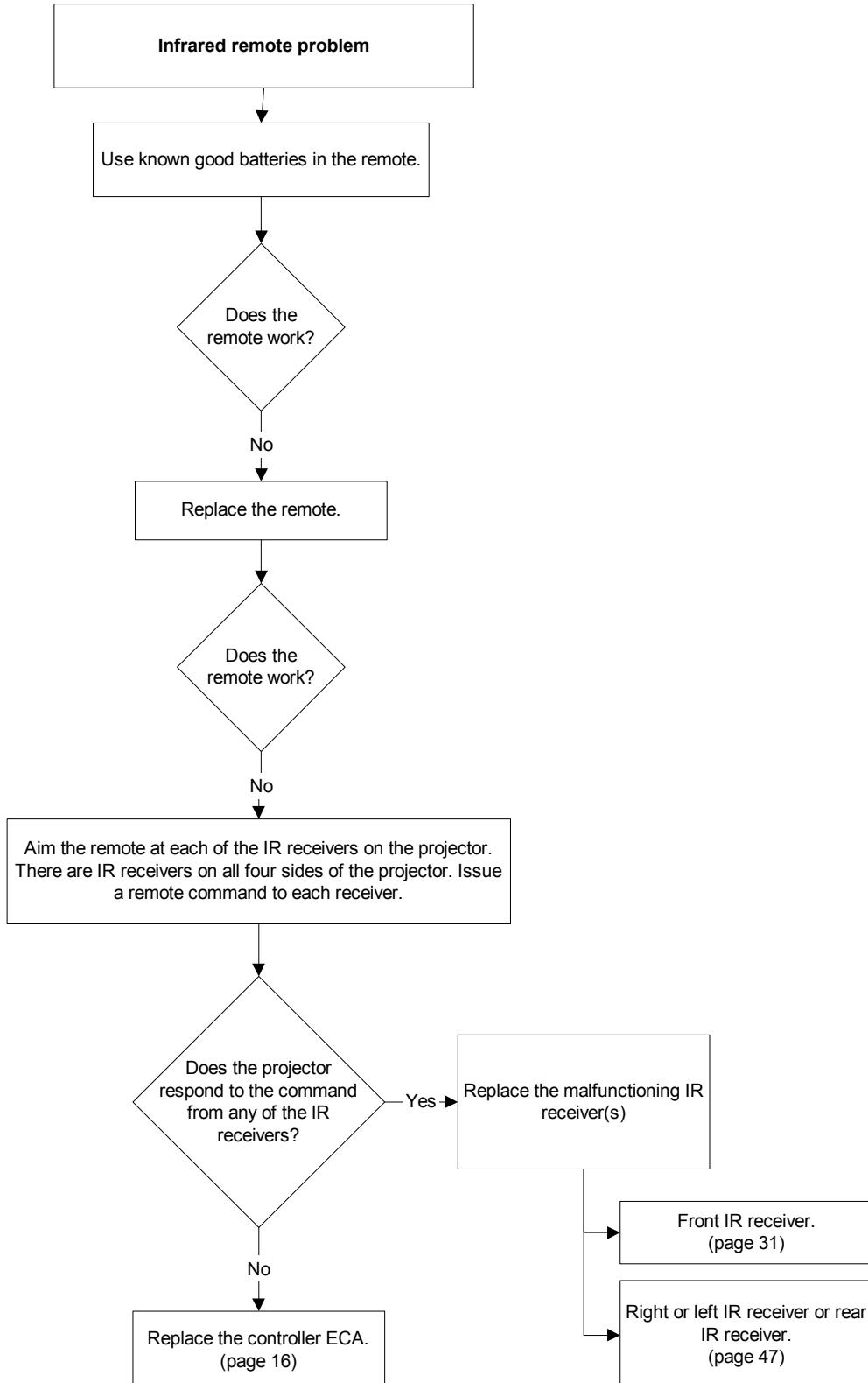
## Dim image



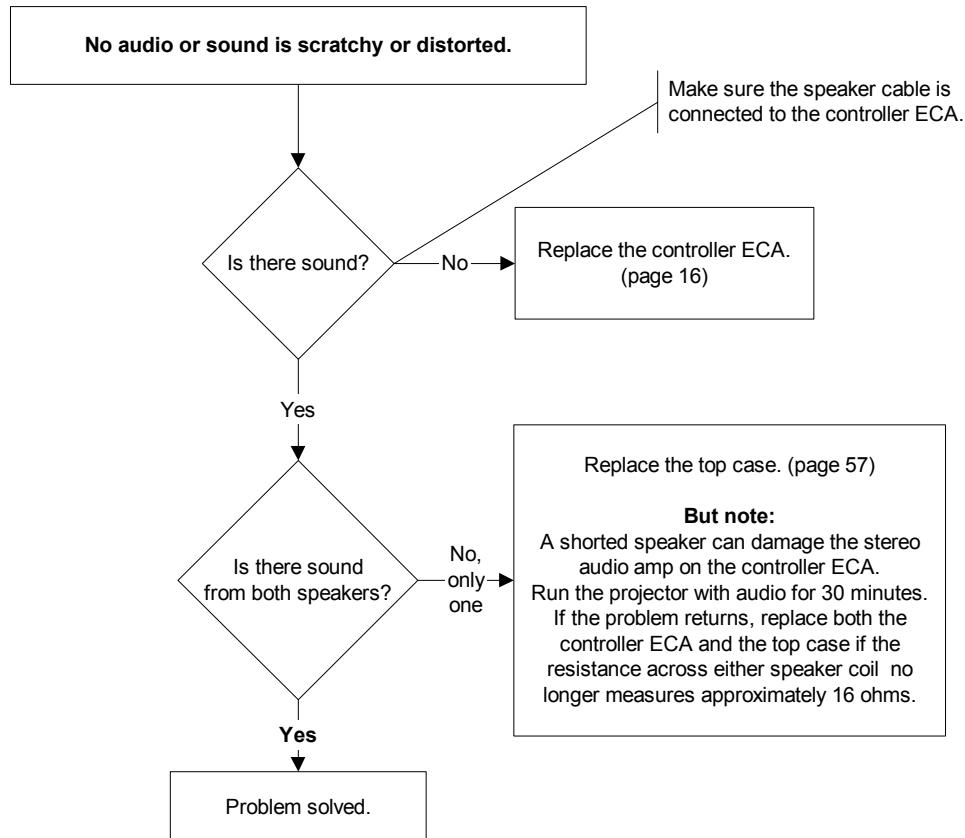
## Keypad Problems



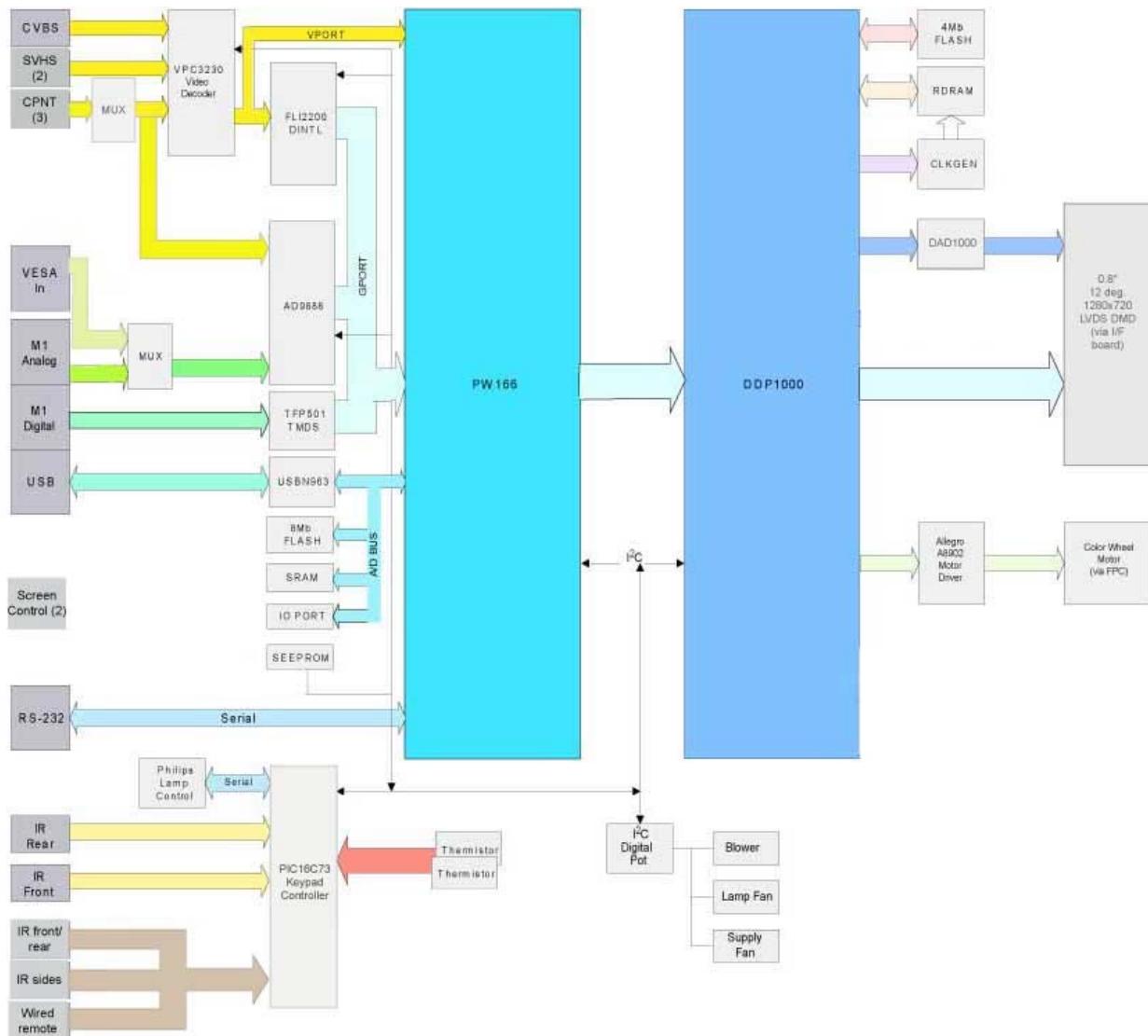
## Remote Problems



## Audio Problems

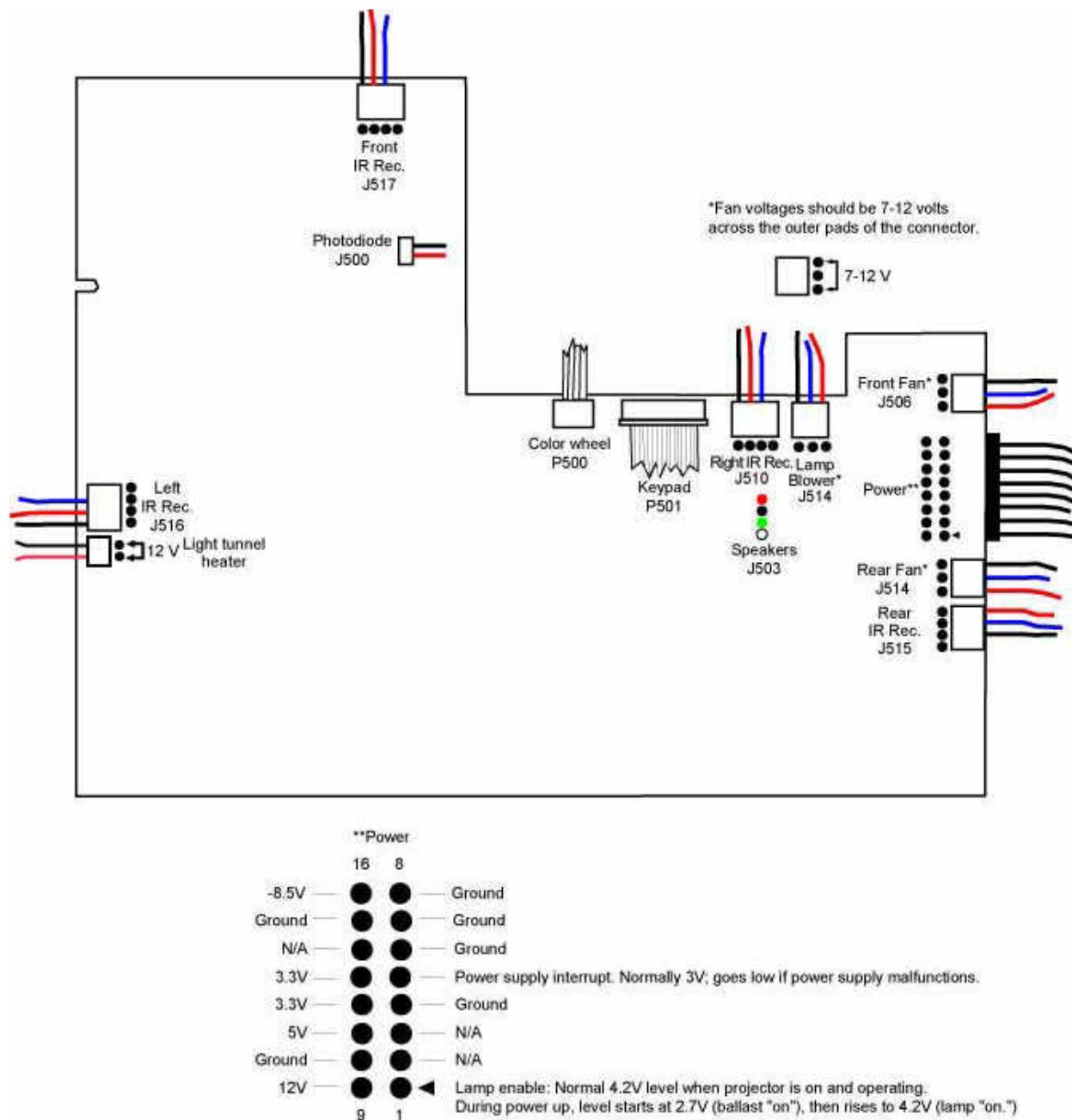


## Block Diagram



## Check Controller Voltages

To check voltages, you need to power up the projector with the top case removed. See page 86 for instructions on how to do this.



## Power Up with Top Case Removed to Check Fans and Voltages

You can check the three fans and the lamp blower by removing only the top case from the projector.

Once the top case is removed, you can power up the projector and check internal voltages or verify whether the fans operate.

1. Remove the following items:

Top case (see page 57)

Lamp blower contact ECA (see page 59)

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**NOTE** The lamp and the lamp door must be in place to start the projector with the top case removed.

---

2. Use black vinyl or other insulating tape to temporarily attach the lamp blower contact ECA to the lamp module. The lamp blower must receive power for the projector to start. Ensure that the contacts align properly.



Lamp blower contact ECA  
temporarily attached to lamp blower contacts

3. Connect the lamp blower contact ECA cable to the controller ECA at J509.
4. Use a compatible remote control to power up the projector. To do this, point the remote at any side of the projector and press Power.

If you do not have a remote, connect the keypad cable to the controller ECA and power up the projector using the keypad.

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**CAUTION** When you start the projector, there is voltage present on the controller ECA and power supply. Be very careful where you probe and where you touch.

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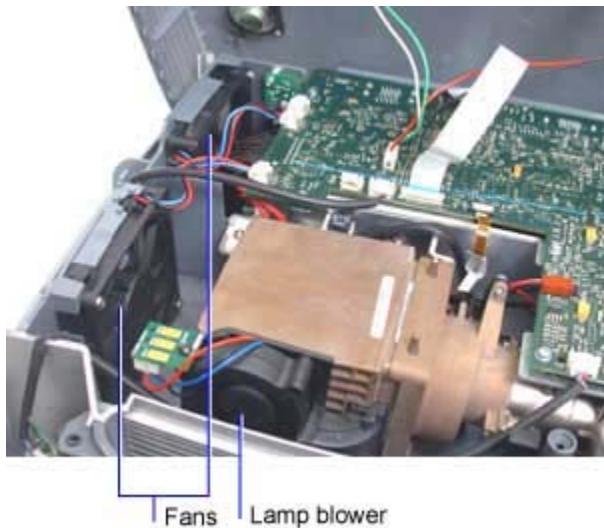
5. Do one or all of the following:

Check controller ECA voltages (see page 85)

Check the thermal switch (see page 91)

Follow the directions below to check the fans and lamp blower.

The fans and the lamp blower should all start up when you press the power button.



6. To verify that a fan or blower is bad, unplug the connector for the suspect unit, then plug in a known good fan or blower.
7. If the lamp blower fails to operate, replace the lamp module (see page 37).
8. If one of the fans fails to operate, remove the fan assembly and replace the defective fan (see page 26).

## Check the Color Wheel and Reseat the Cable

If the color wheel cable is not properly seated in its ZIF connector, the color wheel will not start when the Power button is pressed. When the color wheel does not spin, there is no lamp enable signal, and the lamp will not strike.

Normally, you hear the brief high-pitched sound when the color wheel spins up to speed. If you don't hear the sound, or if you are not sure, you can do a visual check to confirm the color wheel operation.

If the color wheel is not spinning, the first item to check is the color wheel cable connection and reseat it if necessary.

To check color wheel operation and reseat the cable, do the following:

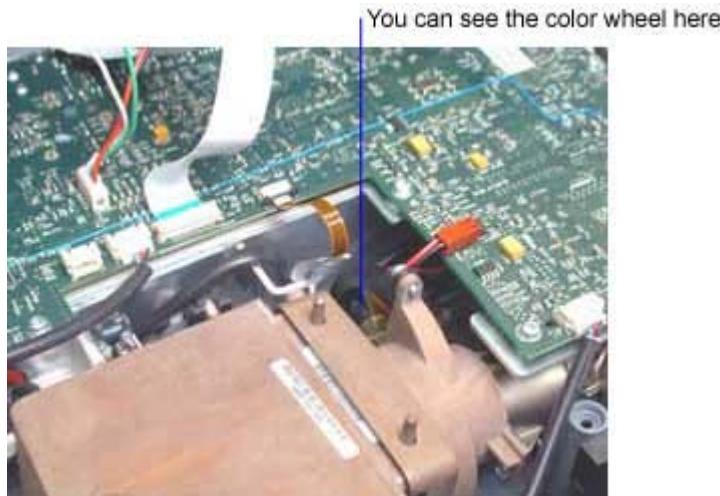
1. Power up the projector with the top off (see page 86).

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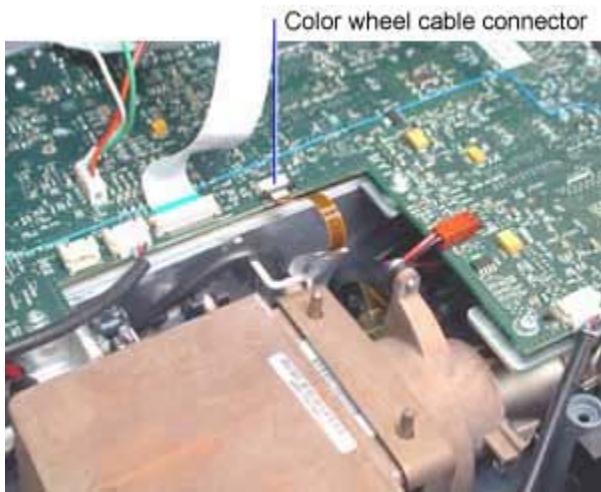
**NOTE** The lamp and the lamp door must be in place to start the projector with the top case removed.

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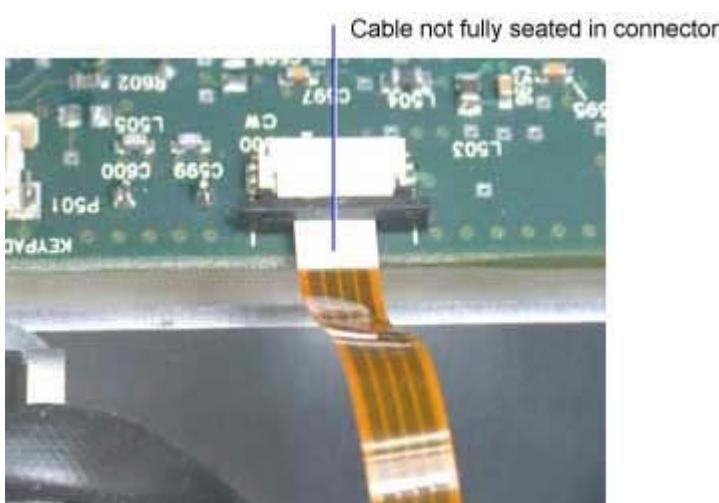
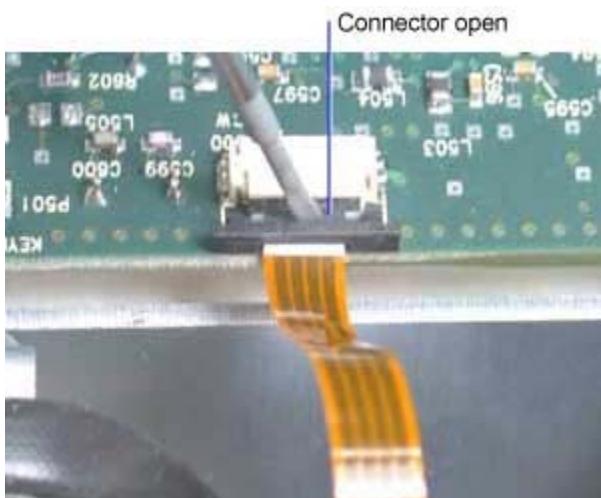
2. Examine the color wheel to see if it is spinning. The color wheel is inside the circular shroud on the optical engine.



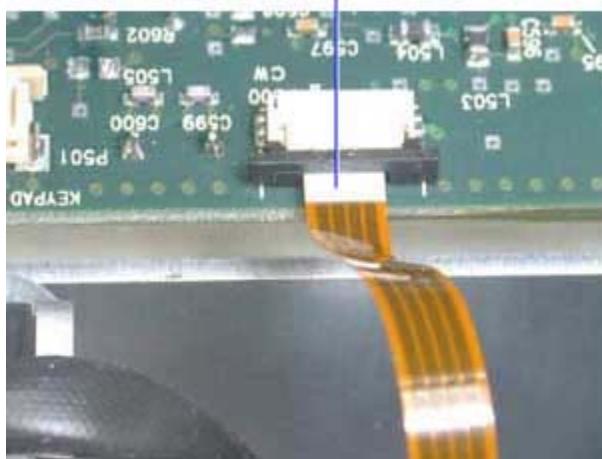
3. If the color wheel is not spinning, check and reseat the color wheel cable connection.



To reseat the cable, open the ZIF connector, and pull the cable out. Re-insert the cable fully, and then close the ZIF connector.



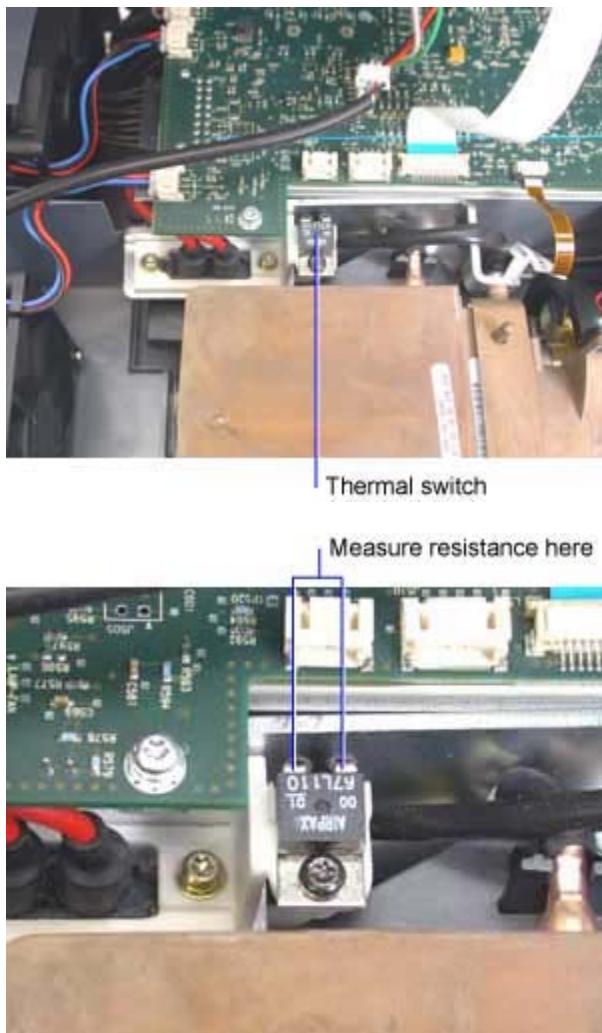
Cable fully seated and connector closed



## Check the Thermal Switch

The thermal switch is designed to open when the temperature inside the projector gets too high. When the switch opens, the power supply shuts down, turning the projector off.

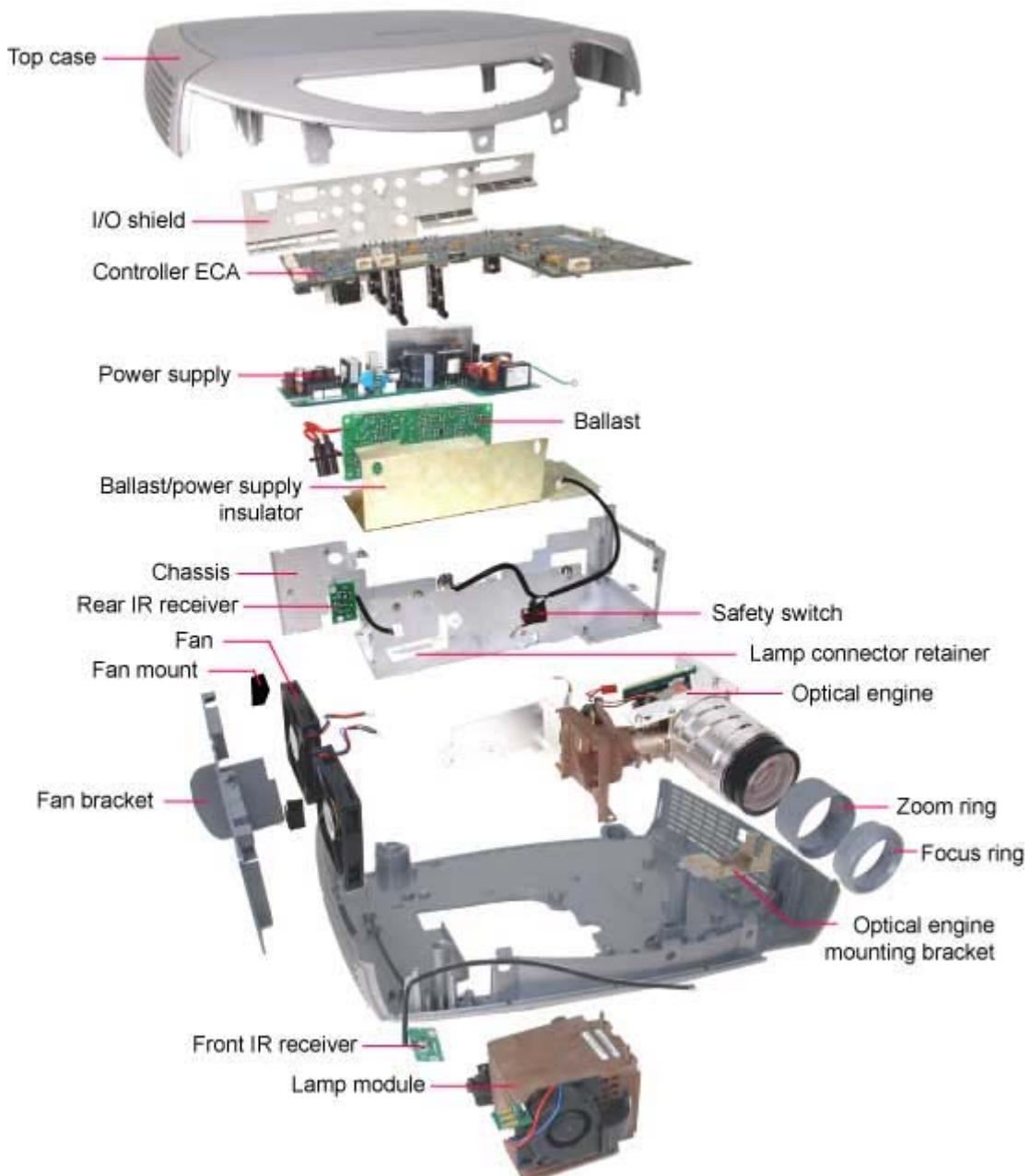
When the projector shuts down after operating for a few minutes or when the lamp fails to strike after repeated attempts at startup, you need to check the thermal switch operation. First, power up the projector with the top off (page 86). Let the projector run until it shuts down. Measure the resistance at the switch. If the resistance is **infinity** ( $\Omega$ ), replace the safety switch assembly, which includes the thermal switch.



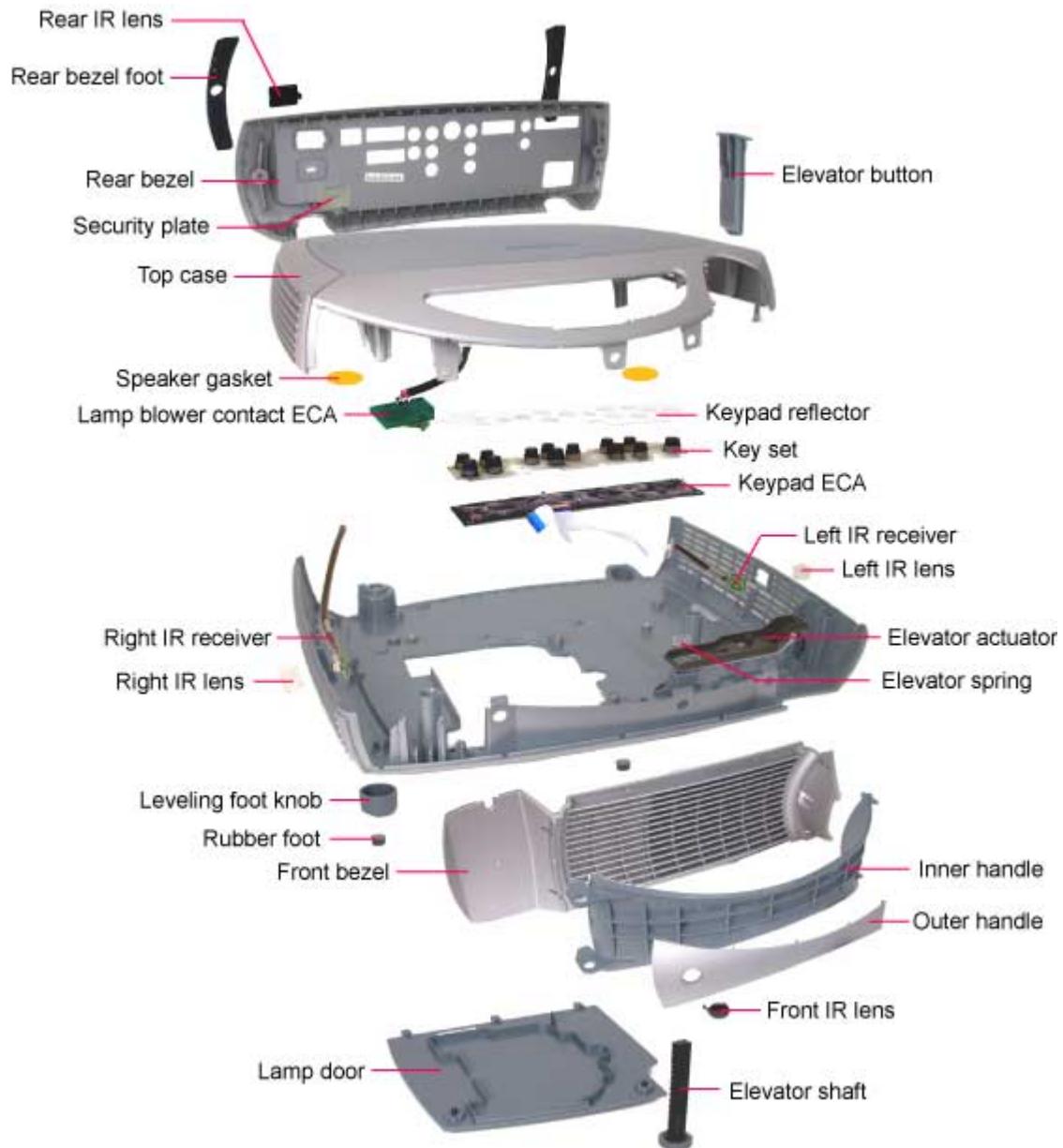
Go to remove and replace the safety switch assembly on page 55.

# Parts Lists

## Component Parts Exploded View



## Case Parts Exploded View



## FRUs by alphabetic listing

The following is a list of FRU parts available for the TDP-MT8 projector. Part names in parenthesis are those that appear in the online parts price list. Those names may contain unfamiliar abbreviations or acronyms.

Part Name	Part Number	Notes
Ballast (Ballast, 250W, Raven)	520-0102-xx	
Ballast /Power Supply Insulator (Insulator, Ballast/Power Supply)	329-0357-xx	
Bottom Case (S/A, Encl., Lower w/Inserts, Pearl White)	505-1454-xx	Requires certification label
Certification Label (Label, Certification, TDP-MT8)	020-1686-xx	Required for a new bottom case
Chassis (S/A, System Chassis)	505-1236-xx	
Controller ECA (ECA, Controller w/I/O Shield)	510-1778-xx	Includes I/O shield
Elevator Actuator (Actuator, Elevator)	340-0987-xx	
Elevator Button (Button, Elevator)	340-0986-xx	
Elevator Shaft (S/A, Elevator Shaft)	505-1245-xx	Includes elevator foot at end of shaft
Elevator Spring (Spring, Lever)	321-0107-xx	
Fan (S/A, Fan, 80x15)	526-0121-xx	
Fan Bracket (Bracket, Fan)	340-0977-xx	
Fan Mounts (Mount, Isolation, Fan)	340-1006-xx	
Fastener Kit (Fastener Kit, LP650)	802-0031-xx	See page 96 for contents
Focus Ring (S/A, Focus Ring)	505-1474-xx	
Front IR Lens (Window, IR, Front)	340-0989-xx	
Front IR Receiver (Cable, Front IR)	526-0136-xx	
Front Vent (S/A Vent, Front, Pearl White)	505-1451-xx	
Fuse (Fuse, Miti, 5x20mm)	749-0040-xx	Replacement only. Included with new power supply.
I/O EMI Shield (Shield, I/O)	330-0885-xx	Replacement only. Included with new controller ECA.

Part Name	Part Number	Notes
IO Panel Label (Label, I/O Panel, TDP-MT8)	020-1687-xx	Required for new rear bezel
Inner Handle (S/A, Handle, Inner)	505-1248-xx	
IR Lens, Rear (Window, IR, Rear)	340-0990-xx	
IR Lens, Side (Lens, Side, IR)	340-1015-xx	Fits either left or right side of bottom case
IR Receiver, Left (Cable, Side IR)	526-0135-xx	
IR Receiver, Rear (Cable, Rear IR)	526-0134-xx	
IR Receiver, Right (S/A, Cable, Side IR, Right)	526-0139-xx	
Key Set (S/A, Elastomer Keypad)	505-1391-xx	Rubber key sheet for keypad
Keypad ECA (S/A, Keypad)	526-0124-xx	
Keypad Reflector (Reflector, Keypad)	329-0392-xx	
Lamp Blower Contact ECA (S/A, Blower, Power Cable)	526-0128-xx	
Lamp Blower Contact ECA Bracket (Bracket, Contact Alignment, Upper)	330-0915	
Lamp Connector Retainer (Retainer, Connector, Ballast/TCO)	340-1080-xx	
Lamp Control Cable (Cable, Lamp Sync)	211-0186-xx	
Lamp Door (S/A, Lamp Door, Pearl White)	505-1456-xx	
Lamp Module	TLPLMT8	
Lens Cap (S/A, Lens Cap)	505-1247-xx	
Leveling Foot Knob Knob, Leveling)	340-1005-xx	
Nameplate (Label, Top, Toshiba)	020-1685-xx	Required for new top case
Optical Engine (SP-7200 CS Packaged Engine Kit)	535-0014-xx	Includes projection lens
Optical Engine Mounting Bracket (S/A Bracket, Engine, Lower)	505-1246-xx	
Outer Handle (S/A, Handle, Outer, Pearl White)	505-1452-xx	
Power Supply (ECA, Power Supply, Raven)	510-1615-xx	

Part Name	Part Number	Notes
Power Supply/Ballast Cable (Cable Assy, Ballast)	211-0149-xx	
Power Supply/Controller ECA Cable (Cable, DC Output)	211-0185-xx	
Rear Bezel (S/A, Rear Enclosure, Pearl White)	505-1455-xx	Requires I/O panel label
Rear Bezel Foot (Foot, Rear)	328-0144-xx	
Rubber Foot	329-0029-xx	
Safety Switch (S/A, Cable, Interlock Switch)	526-0123-xx	Includes attached thermal switch
Speaker Gasket (Gasket, Speaker, Foam)	329-0425-xx	Two required for new top case
Security Plate (S/A, Plate, Security)	505-0429-xx	
Serial Number Label (Label, S/N, Universal, Blank)	020-0747-xx	
Top Case	505-1453-xx	Includes speakers. Requires nameplate.
Wire Retainer (Wire Saddle, Locking)	321-0205-xx	
Zoom Ring (S/A, Ring, Zoom)	505-1243-xx	

## Fastener Kit Contents

Fastener	Quantity	Fastens
#4-40 Jack Screws	10	I/O shield
M3x8 Torx T-10 Plastite	10	Keypad
M3x8 Torx T-10	23	Power supply, controller ECA, chassis
M2x8 Torx T-10	5	Safety switch
M4x10 Torx T-10 Conepoint	3	Top/bottom cases
M3x10 Torx T-10	10	Lamp connector retainer
M3x8 Torx T-10, black	10	Rear bezel
M3x8 Torx T-10 Plastite	5	Leveling foot knob
M4x10 slotted black	2	Lamp door
Leveling foot shaft, M8x29	5	

# **TOSHIBA CORPORATION**

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN